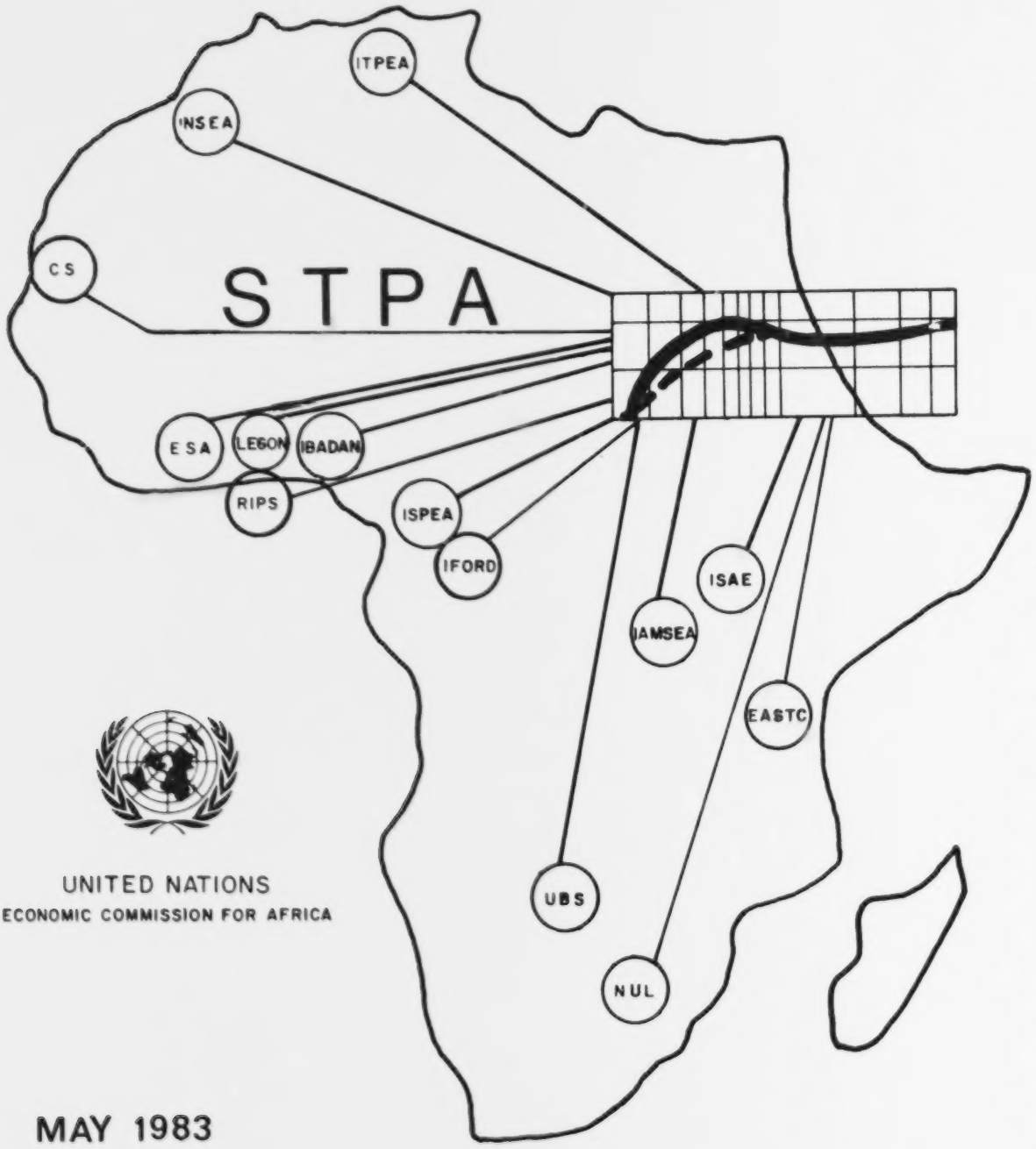
E/ECA/STPA/DM3/11

Directory of Statistical Training Centres Participating in the Statistical Training Programme for Africa



UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA

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Third Meeting of Directors of Centres Participating
in the Statistical Training Programme for Africa (STPA)

Addis Ababa, 31 October - 4 November 1983

DIRECTORY OF STATISTICAL TRAINING CENTRES PARTICIPATING IN THE STATISTICAL TRAINING PROGRAMME FOR AFRICA (STPA)

C O N T E N T S

English version

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INTRODUCTION

The Statistical Training Programme for Africa (STPA) is pursuing its objective aiming at the dissemination of information on statistical training activities of interest to the countries of the region.

In the present issue of the Directory of Statistical Training Centres Participating in the STPA, the ECA secretariat has endeavoured to up-date the information contained in the first issue published in August 1981. For this purpose, the secretariat requested the concrned centres to communicate to it any changes which had occured from that time in the number of their teaching staff, the teaching programmes, the admission requirements, the students living conditions, etc.

It should be underlined that the response of the centres concrned was relatively satisfactory in the provision of the above information. The ECA secretariat continues to believe that regular and timely dissemination of such information is one of the ways of stimulating the improvement of statistical training activities in the region.

As already indicated in the first issue, there exists an ECA Training Information Notice (TIN) on current training opportunities, both within and outside the region, available to Africans. This Directory complements the purpose of the TIN series as it deals specifically with the statistical training centres participating in the STPA.

It is hoped that a wide dissemination of the present issue of the Directory of STPA centres can be ensured with the help of the national statistical offices and the training centres.

1. Country : Botswana
2. Name of the Centre : Department of Statistics
3. Attached to : University College of Botswana
4. Address : P.O. Box 22
   Gaborone (Botswana)
5. Name of the Director : Prof. R.K. Pillai

6-7 Object and Historical Background

The Department of Statistics of the University College of Botswana, was part of the UNESCO Regional project set up in 1973 at the University of Botswana, Lesotho and Swaziland (UBLS). The training programme of that project was supposed to assist in the formation of higher middle level statisticians in response of the demand of the countries concerned and introduce statistical methods in other faculties such as Economies. Since the dissolution of the UBLS in 1976, the centre has taken on diploma and professional training at degree level in addition to the certificate level.

8. Teaching staff

The permanent academic staff consists of a professor, a senior lecturer and three lecturers. They are all expatriates.

9. Teaching programme

The Department is at present running the following programmes:

i) Certificate in statistics
ii) Diploma in statistics
iii) Degree in statistics

A. Certificate programme in statistics

i) Duration of the course: one year

ii) Number of places offered in 1983: 30

iii) Courses

Candidates for Certificate in statistics have to take the following subjects:

Communication skills (E101)
The Botswana Economy (EC101)
Mathematics
Statistical Theory
Applied Statistics (including Surveys and Sampling)
Project Assignment

B. Diploma programme in statistics

i) Duration of the course: two years

ii) Number of places offered in 1983: 20

iii) Courses

The Diploma students are required to take the following courses or their academic equivalent:

First year

ST205 : Calculus and Linear Algebra for Social Scientists

ST206 : Probability

ST303 : Statistical Analysis and Problems

ST304A: Introduction to Econometrics I

ST305 : Introduction to Data Processing and Computer Programming

ST309 : Demography and Vital Statistics

Students must also have between 8 and 12 units of other relevant courses.

Second year

ST301 : Theory of Statistics I : Probability theory

ST302 : Theory of Statistics II: Inference

ST307 : Sample survey theory

ST403 : Statistical project

Students must also have between 14 and 20 units of other relevant courses.

C. B.A. Degree Programme in statistics

i) Duration of the course: four years

ii) Number of places offered in 1983: 20

iii) Courses

The Department is running three types of Degree Programme:

Type I : B.A. Degree - Single Major

Type II : B.A. Degree - Double Major

Type III : B.A. Degree

The required courses for each type of programme are as follows:

Type I: ST202 : Introduction to sampling theory
ST203 : Introduction to statistics I
ST204 : Introduction to statistics II
ST205 : Calculus and Linear Algebra for social scientists
ST206 : Probability
ST301 : Theory of statistics I : Probability theory
ST302 : Theory of statistics II : Inference
ST303 : Statistical analysis and problems
ST304A: Introduction to Econometrics, I
ST304B: Introduction to Econometrics, II
ST305 : Introduction to Data processing and computer programming
ST306 : Experimental design
ST307 : Sample survey theory
ST309 : Demography and Vital statistics
ST313 : Operations research
ST314 : Stochastic processes
ST403/4: Statistical project

Type II : The same courses like type I excluding ST306, ST309, ST313 and ST314.

Type III: ST202, ST203, ST204, ST205, ST206, ST301, ST302, ST305 and other statistics courses to make at least 32 units.

10. Admission requirements

i) Certificate in Statistics

The normal entrance requirements for the Certificate in Statistics is Cambridge Overseas School Certificate or equivalent. A good pass in Mathematics would be desirable.

ii) Diploma in Statistics

A pass with at least credit in Certificate in Statistics or similar qualifications of equivalent standard.

iii) B.A. Degree Programme (Type I, II and III)

The normal requirement for entrance to degree courses is a Cambridge Overseas School Certificate in the First or Second Division with a credit in English Language and a credit in Mathematics. Other qualifications may be accepted on their merits as alternatives.

UNIVERSITY OF BOTSWANA AND SWAZILAND

UNIVERSITY COLLEGE OF BOTSWANA

OUTPUT DURING THE PAST FOUR YEARS

YEAR	CERTIFICATE IN STATISTICS	DIPLOMA IN STATISTICS	DEGREE
1978	9	1	11
1979	9	2	10
1980	15	6	4
1981	12	3	7

Living conditions

Full-time students are required to live in an approved hall of residence on the campus. The halls of residence are well equipped and appointed.

1.	Country	:	Ghana
2.	Name of the Centre	:	Department of Statistics Institute of Statistical, Social and Economic Research (ISSER)
3.	Attached to	:	University of Ghana
4.	Address	:	Department of Statistics University of Ghana P.O. Box 115 Legon, Ghana ISSER P.O. Box 74 Legon, Ghana
5.	Names of the Directors	:	Dr. S.I.K. Odoom Head of the Department of Statistics Professor Kodwo Ewusi Acting Director of ISSER

6-7 Object and Historical Background

Profession-oriented statistical training in Ghana started in 1961, at the middle level, at the Achimota Statistical Training Centre near the University of Ghana. This was a UNDP - sponsored centre which offered courses leading to a certificate in statistics. The school was later absorbed by the Institute of Statistical, Social and Economic Research (ISSER) which was established in 1962 within the University of Ghana. ISSER offered a one-year training for the certificate and a further year's training for a Higher Certificate in Statistics was introduced in 1970/71 academic year. Subsequently the training programme at ISSER was expanded to include post-graduate instruction in statistics for graduates in other subject areas, mainly in the social sciences. In addition to the training programmes available at ISSER, other departments in the University offered specific courses in statistics at different levels to their students.

In 1972, the University of Ghana decided to set up a statistics unit to offer formal instruction in statistics at undergraduate level to co-ordinate the teaching of statistics in the University and to relieve ISSER, which had been set up primarily as a research establishment, from most of its teaching commitments.

The statistics unit was located within the department of mathematics and ran programmes of undergraduate and graduate level courses as well as service courses for departments in the faculties of Science, Agriculture and Social studies.

The programmes offered by the statistics unit have a substantial practical component, including a vacation training scheme under which students are attached to selected organizations in the government and private sectors to acquire practical experience in the kind of work they may have to do on graduation.

The first degree programme began in October 1973 with 38 students. Enrollment in the subsequent years quickly passed the 100 marks. Owing to this increase in student numbers and its attendant administrative problems, and the need to develop facilities for the co-ordination of statistical training within the University, the University of Ghana decided to turn the unit into a full Department of Statistics with effect from January 1979.

The facilities of the centre is available for the training of professional statisticians and middle level statistical personnel for government, for private industry and research institutions. It's training programmes is open to personnel from other African countries.

8. Academic staff

The teaching staff of the departmnet at present consists of:

(i) Full-time members of the department of statistics

One Associate Professor

One Senior Lecturer

Two Lecturers

(ii) Research staff of the Institute of Statistical, Social and Economic Research (ISSR),University of Ghana, who teach part-time in the department

One Senior Research Fellow

One Research Fellow

(iii) One part-time lecturer (from outside the University)

(iv) Temporary teaching assistants

9. Courses

The Department of Statistics offers programmes leading to a Bachelor's degree (B.A. or B.Sc.) and a graduate programme leading to M.Sc. in Statistics.

A. The B.A., B.Sc. Degree Programme

The bachelor's degree programme in Statistics is designed primarily to train candidates to take up careers as professional statisticians. In addition there are courses for students whose major interests are in subject areas other than Statistics, mainly the social sciences, biology and agriculture.

Undergraduate Degree programmes of the University of Ghana have to conform to certain general requirements:

In the first year each student is required to study three subjects, spending his time equally among these three. In the second year the course of study must cover two subjects but a student may spend more time on one than the other. In the third and final year of the degree programme, a student may spend all his time in one subject to acquire some degree of specialisation, or he may continue his study of two subjects towards a combined major degree.

Within this framework the department of statistics recommends the following combinations of subjects and courses to our undergraduates:

Year 1 : Statistics, Economics, Mathematics

Statistics, Computer Science, Mathematics

Year 2 : Statistics, Economics

Statistics, Mathematics

Statistics, Computer Science

Year 3 : Single subject major in Statistics or a combined major in statistics and the other subject studied in Year 2.

The combinations recommended above are not the only area possible. Various other combinations are allowed.

The approximate amounts of teaching time devoted to statistics in each year, and the proportion this forms of total teaching time are as follows:

Year 1 : 7 hours a week for 25 weeks = 175 hours (1/3 of total teaching time)

Year 2 : 7-10 hours a week for 25 weeks = 175-250 hours (1/3 to ½ of total teaching time)

Year 3 : (i) Double major : 6-9 hours a week for 25 weeks = 150-225 hours
40-60% of total teaching time

(ii) Single major : 15 hours a week for 25 weeks = 300 hours
100% of total teaching time

Examinations

University examinations are held at the end of each year of the undergraduate programme. The award of a degree is based on the examinations at the end of the second and third years and on class work and class tests given in these two years.

Admission Requirements

The minimum requirements for admission to degree courses at the University of Ghana are:

Passes in five subjects at the General Certificate of Education (G.C.E.), or its equivalent, of which three subjects must be passed at Advanced Level or its equivalent.

For Statistics, a pass in Mathematics of GCE Advanced Level or its equivalent, is desirable. A pass in Mathematics at ordinary level is required.

UNIVERSITY OF GHANA
DEPARTMENT OF STATISTICS

B.A., B.SC. PROGRAMME IN STATISTICS

FIRST YEAR

	Course	Pre-Requisite	Units
S100:	Elementary Statistical Methods	O-Level Mathematics	12
S101:	Introductory Probability	A-Level Mathematics	12
MS001:	Basic Algebra and Calculus	O-Level Mathematics	12
S102:	Practical	O-Level Mathematics	4

Course Combinations

Option A (pre-requisite A-Level Mathematics) S100, S101, S102 28

Option B (Non-continuing) S100, S101, S102 28

SECOND YEAR

	Course	Pre-Requisite	
S200:	Statistical Methods	S100, S101/M101	12
S201:	Probability Theory	S101/M101	12
S202:	Sample Survey Methods	S100, S101	6
S203:	Design of Experiments I	S100	6
S204:	Practical	S100	4
			40

THIRD YEAR

	Course	Pre-Requisite	
S300:	Statistical Inference	S201	14
S301:	Applied Stochastic Processes	S201	14
S302:	Sampling Theory	S202	7
S303:	Design of Experiments II	S203	7
S304:	Non-parametric Statistics	S200	7
S305:	Regression Analysis	S200, M201	7
S306:	Multivariate Methods	S200, S201, M201	7
CS200:	Fortran		8
CS204:	Statistical and Utility Packages	CS200	8
S310:	Project		14

Course Combinations

(a) Single Subject: S300, S310 plus 42-45 units of other courses

(b) Double Major: (i) 28 or 30 units of courses (S300 to S306, CS200, CS204)

(ii) S310 or project in other subject

B. The M.Sc. Programme

ENTRY REQUIREMENTS

A good first degree and a good mathematical background. Normally a second class upper degree and at least two years of University mathematics are required but each application is considered on its merits.

PROGRAMME

The programme extends over two years and consists of courses of lectures with written examinations, participation in seminars and supervised individual projects involving practical data analysis or the study of some aspect of theoretical statistics. A dissertation must be submitted on the project.

COURSES

S400:	Statistical Theory	(3 hours a week for 2 terms)
S401:	Probability Theory	"
S402:	Stochastic Processes	"
S403:	Linear Statistical Models	"
S404:	Non-Parametric Statistics	"
S405:	Multivariate Analysis	"
S406:	Analysis of Discrete Data	"
S407:	Introduction to Biostatistics	"
S410:	Seminars	(One 2-hour session a week)

COURSE COMBINATIONS

First Year : S400, 401 and 402

Second Year : (i) Two courses selected with the approval of the dept.

(ii) S410 and Project

Each student is expected to give a presentation in S410 on the subject of his project.

EXAMINATIONS

First Year : Three 3-hour written papers

Second Year : Two 3-hour written papers and a dissertation on the project.

1. Country : Ghana
2. Name of the Centre : Regional Institute for Population Studies (RIPS)
3. Attached to : University of Ghana, Legon
4. Address : P.O. Box 96, Legon, Ghana
5. Name of the Director : Chukuka Okonjo
6. Object

The Institute aims at promoting and strengthening research and training in demography and related fields in mainly the English-speaking countries of Africa. In the short term the Institute endeavours to:

- provide courses of intensive classroom training or guided research in demography and related fields;
- provide ad hoc courses, in-service trianing and special courses
- conduct, guide, and in consultation with the United Nations publish technical as well as applied research on population trends and their relation to social and economic factors
- undertake and publish the results of field research work within mainly the English-speaking countries of Africa
- provide information and advisory services in demography and related fields at the request of the English-speaking African countries.

7. Brief Historical Background

The Regional Institute for Population Studies (RIPS) was established in Ghana on the same basis as for IFORD to serve the English-speaking countries of Africa. It was inaugurated at Accra, Legon on 1 February 1972 following an agreement signed on 3 December 1971 between the Government of the Republic of Ghana and the United Nations Organization.

In line with the General Assembly (resolution 32/197 of 20 December 1977) the management of the Institute was decentralised to the Economic Commission for Africa as the executing agency for the project. As the view that the Institute be fully regionalised had been adopted by the fifth meeting of the Conference of Ministers of the Commission in March 1979 in its Resolution 367 (XIV), the Executive Secretary of the Commission initiated action to implement the resolution. The sixth meeting of the Conference of Ministers of the Commission in April 1980 in its Resolution 393(XV) noted the action already taken by the Executive Secretary, and endorsed the new Statutes adopted for the Institute by the Technical Preparatory Committee of the Whole. By Decision 37/444

of 21 December 1982, the General Assembly of United Nations approved the new statutes of RIPS and endorsed the observations and understandings reflected in the report of the Advisory Committee on Administrative and Budgetary Questions.

8. Teaching staff

The permanent teaching staff of the Institute is composed of 4 United Nations experts (including the Director) and 3 demographers supplied by the Government of Ghana. Short-term consultants are appointed by the Economic Commission for Africa at the request of the Director.

9. Teaching programme

9.1 Academic training

The Institute provides the following three courses of study:

i) A 12-month course of study leading to the Graduate Diploma in Population Studies of the University of Ghana;

ii) A second course of study leading to the Master of Arts degree in Population Studies of the University of Ghana;

iii) A course of study leading to the Ph.D degree in Population Studies of the University.

9.1.1 Graduate Diploma in Population Studies

i) Duration of the course: one year

ii) Courses

The Diploma course which begins in October is taught through lectures, tutorials, seminars, laboratory work, field surveys and individual research work. The Diploma programme consists mainly of four courses which run for three terms and are exhaustively examined in June of each year. The fourth term which lasts from July to september is spent on research work on a set topic.

	Course Unit	Number of hours of Lecture	Laboratory
	I Technical Demography (Paper I)		
101	Sources of Demographic Data and their limitations	8	2
102	Evaluation of Demographic Data	10	6
103	Fertility Analysis	13	10
104	Mortality Analysis	13	10

	Course Unit	Number of hours of Lecture	Laboratory
105	Migration Analysis	7	6
106	Population Projections	12	3
107	Dynamics of population change and population models	10	6
108	Adjustment of Demographic Data	5	4
	II Mathematics and Statistics (Paper II)		
201	Basic Mathematics	18	12
202	Interpolation and Graduation	6	6
203	Rates, Ratios, Index numbers and Standardisation	6	6
204	Statistics	24	14
205	Sampling Techniques	15	12
206	Social research methods and Survey Methodology	20	12
207	Introduction to Computing Techniques	30	
	III Substantive Demography (Paper III)		
301	Introduction to Population studies	5	-
302	World Population Growth, Distribution and Resources	14	-
303	Population composition	12	-
304	Components of Population change	18	-
305	Population Theories	8	-
306	Human Reproduction, Genetics and Fertility regulation	10	-
307	Epidemiology and Social Medicine	4	-
308	Population Policies and Programmes	8	-
309	Seminar on Substantive Demography	26	-

	Course Unit	Number of hours of Lecture	Laboratory
	IV Economics and Sociology (Paper IV)		
401	Economic Institutions and Population Trends	16	-
402	Social Organisation and Population phenomena	12	-
403	Value Normative Systems and Behaviour Patterns in African Societies and their Relevance to Population Phenomena	16	-
404	Population change and modernization	12	-
405	Human Ecology and Settlement Patterns	6	-
406	Population trends and Development Planning	10	-
407	Elements of Regional and Physical Planning		18
408	Human Resources and Manpower Planning		10
409	Seminar on Economics and Sociology		26

9.1.2 Master of Arts Degree in Population Studies

i) Duration of the course: one year

ii) Courses

Mathematics
Advanced Statistical Methods
Computer science
Social research methods
French

The research is reported on in a thesis which is evaluated by the internal and external examiners of the University of Ghana. As far as it is possible and advisable, field work is undertaken in the country of origin of the student as part of the research for the Master's degree and the topic for the thesis is chosen after consultations between the student and his sponsoring organisation or research institution in his home country.

9.1.3 Ph.D Degree Programme in Population Studies

Candidates with appropriate qualifications could be admitted to courses of study which lead to the Doctor of Philosophy degree in Population Studies of the University of Ghana. Such courses of study are specifically designed to meet the needs of students who wish to work in any of the major fields of population studies.

9.2 Other training activities

9.2.1 Ad hoc, Special and In-service Training Courses

RIPS organises courses specially designed to meet the needs of professionals in the field at the request of governments and institutions in the English-speaking African countries.

9.2.2 Research and Publications

M.A. and Ph.D students are enabled as far as possible, to undertake field research in the countries of the region as a basis for their thesis. Each senior member of the Institute supported by Research Fellows and Research Assistants undertakes research projects in the region.

10. Admission requirements

Minimum requirement of a Bachelor's Degree in the Natural, Social or Earth Sciences or any related subject for the Graduate Diploma.

For the Master's Degree, a Bachelor's degree and, in addition, a Graduate Diploma in Population Studies or an equivalent qualification.

For the Ph.D Degree, a Master's Degree in Population Studies or an equivalent qualification.

11. Fellowships

About 45 United Nations Fellowships are available yearly. Candidates nominated by governments and accepted by the Institute will be awarded United Nations Fellowships for the period of study. Fellowships of the Population Dynamics Programme of the University of Ghana are also available in addition to the United Nations Fellowships.

TABLE 1

GRADUATE DIPLOMA IN POPULATION STUDIES
COURSE: STUDENTS BY COUNTRY OF ORIGIN

COUNTRY	1971/ 1972	1972/ 1973	1973/ 1974	1974/ 1975	1975/ 1976	1976/ 1977	1977/ 1978	1978/ 1979	1979/ 1980	TOTAL
Azia	-	-	-	-	-	1	-	-	-	1
Cameroon	-	-	-	-	-	-	1	-	-	1
Ethiopia	3	3	1	4	1	-	-	-	-	12
Gambia	-	-	-	-	-	1	-	1	2	4
Ghana	2	2	2	5	6	5	7	8	10	47
Kenya	-	-	-	1	1	1	1	3	3	10
Lesotho	-	1	-	-	-	-	-	-	-	1
Liberia	-	2	-	2	-	1	1	-	-	6
Libya	-	-	-	-	-	1	-	-	-	1
Malawi	-	-	-	-	-	-	-	1	-	1
Mauritius	-	1	-	-	-	-	-	-	-	1
Nigeria	2	2	5	1	3	2	1	-	-	16
Papua New Guinea	-	-	-	-	1	-	-	-	-	1
Sierra Leone	1	-	4	4	3	1	-	3	-	16
Somalia	-	1	-	-	-	-	-	1	1	3
Sudan	-	1	1	3	6	4	6	3	-	24
Swaziland	-	-	-	-	-	-	1	-	-	1
Tanzania	-	-	-	2	-	2	4	1	1	10
Uganda	-	3	1	1	3	4	2	3	4	21
Zambia	-	1	-	1	-	1	-	-	-	3
Zimbabwe	-	-	-	-	-	-	-	-	1	1
TOTAL	8	17	14	24	24	24	24	24	22	181

TABLE 2

M.A. DEGREE IN POPULATION STUDIES COURSE
STUDENTS BY COUNTRY OF ORIGIN

COUNTRY	1973	1974	1975	1976	1977	1978	1979	1980	TOTAL
Cameroon	-	-	-	-	-	-	1	-	1
Ethiopia	1	3	1	3	1	-	-	-	9
Ghana	-	-	-	2	4	2	5	5	18
Kenya	-	-	-	-	1	-	-	-	1
Liberia	-	-	1	-	-	-	-	-	1
Nigeria	1	-	1	-	1	-	-	-	3
Sierra Leone	1	-	4	1	1	-	-	-	7
Sudan	-	1	1	2	-	1	3	1	9
Swaziland	-	-	-	-	-	-	1	-	1
Uganda	-	1	1	1	2	1	-	-	6
Zambia	-	-	-	1	-	-	-	-	1
GRAND TOTAL	3	5	9	10	10	4	10	6	57

TABLE 3

PH.D. DEGREE IN POPULATION STUDIES COURSE
STUDENTS BY COUNTRY OF ORIGIN

COUNTRY	1977	1978	1979	TOTAL
Azania	-	-	-	-
Ethiopia	1	-	-	1
Gambia	-	-	-	-
Ghana	-	-	-	-
Kenya	-	-	-	-
Lesotho	-	-	-	-
Liberia	-	-	-	-
Libya	-	-	-	-
Mauritius	-	-	-	-
Nigeria	-	-	-	-
Papua New Guinea	-	-	-	-
Sierra Leone	-	-	-	-
Somalia	-	-	-	-
Sudan	-	-	-	-
Tanzania	-	-	-	-
Uganda	-	-	1	1
Zambia	-	-	-	-
TOTAL	1	-	1	2

1.	Country	:	Lesotho
2.	Name of the Centre	:	Department of Statistics
3.	Attached to	:	National University of Lesotho
4.	Address	:	P.O. Roma, 180 via Maseru, Lesotho Cable address: UNITER, Roma, via Maseru Telex: 303 BB Telephone: Roma 201
5.	Name of the Acting Director	:	L.O. Africa

6. Object

The Department of Statistics trains personnel intending to serve government and industry in the field of statistics. In addition selected courses are provided.

7. Brief Historical Background

This centre was founded in 1973 when the combined University of Botswana, Lesotho and Swaziland (UBLS) statistical project began receiving assistance from UNDP/UNESCO. Since 1976 a separate programme has been offered by the Department of Statistics, National University of Lesotho. This followed the dissolution of UBLS. UNDP/UNESCO assistance has also been phased out. A Demographic Training Unit will start in February 1983 and will be financed by the UNFPA for a period of two years, and the University will then take over.

8. Academic Staff

The permanent academic staff comprises five lecturers (three expatriates and two nationals). Five Lesotho nationals are on training abroad: three in Canada, one in USA and one at RIPS, Ghana (Demography).

9. Courses

The Department of Statistics is currently restructuring its programme and introducing new courses. An honours programme is contemplated. Currently only the Certificate and Degree programmes are offered. The diploma programme has been suspended.

A. Certificate programme in statistics

i) Duration : two years

ii) Entrance requirements: Normal entrance requirement for the certificate programme in statistics is the Cambridge Overseas School certificate or equivalent. A pass in mathematics is desirable. Mature age entry qualifications apply for students aged 19 or above provided he or she possesses suitable knowledge, skill or aptitude. This ability will be determined by a committee of Government and University representatives.

iii) Number of places in 1983: 50

iv) Course programme

Course

First year English
M103-4 Mathematics
M101-2 Mathematics

ST102 Elementary Statistics and Probability
ST201-3 Introductory Statistics I
ST201-1 Official Statistics
CS201 Introduction to Computer Science
ST202-3 Introductory Statistics II
ST204-4 Introductory Probability
ST208-2 Computer Programming
ST404-3 Demography

Note - Students intending to major in statistics are advised to take ST102 (statistics) and either M103-4 or M101-2 (Mathematics).

v) Assessment: Candidates who are able to obtain an over-all weighted grade of 40 per cent in year 1 are allowed to continue to obtain year 2. Candidates who in year 2 are able to obtain an over-all weighted grade of 45 per cent are awarded the certificate in statistics.

B. Degree Programme (Bachelor of Arts: Stats. single and double major)

i) Duration: 4 years

ii) Entrance requirements

The normal basic requirement to the degree programme (B.A. Stat. single and double major) courses shall be a Cambridge Overseas School Certificate (COSC) in the 1st or 2nd Division with a credit in English language. Recognized alternative qualifications shall be a Central Certificate of Education provided that the candidate.

(a) Has taken examination at "O" level in at least six subjects taken over not more than two sittings.

(b) Has passed at "O" level in at least four subjects including English

(c) Has a grade aggregate for six subjects not exceeding 34.

iii) Number of places offered in 1983:
40 (single major)
40 (double major)

iv) Course programme. In the first year students will normally be registered jointly in the Faculty of Social Science and in the Faculty of Humanities and follow a Common First Year Programme of study arranged jointly by both faculties.

Common first year for humanities and social science

- 12 units of communication skills
- 6 units of African studies
- 6-10 units of mathematics/statistics

Following the common first year, B.A. students can proceed to a single major programme or to a double-major programme in statistics. The most popular programme is a B.A double-major. The popular second subjects in a double major programme are Economics, mathematics, human geography or biology.

Course		Units
ST102	Elementary Statistics and Probability	
ST201	Descriptive Statistics and Elementary Probability	
ST202	Elementary Statistical Inference	
ST203	Official Statistics (in Lesotho)	1
ST205	Basic Data Collection and Presentation	2
ST206	Survey Research Methods	2
CS201	Introduction to Computer Science	4
ST209	Introductory Probability Theory	4
ST210	Introductory Statistical Inference	4
ST212	Introduction to Quantitative Techniques	3
ST220	Project for Certificate in Statistics	3
ST301	Topics in Mathematical Statistics and Probability	4
ST303	Statistical Methods I	4
ST304	Statistical Methods II	4
ST305	Introduction to Sample Surveys	3
ST306	Introduction to Operational Research	4
ST308	Time Series Analysis	3
ST333	Special Topics in Applied Statistics	3
ST401	Theory and Practice of Operational Research	3
ST402	Experimental Design	4
ST404	Demography	3
ST406	Sampling Theory	3
ST420	Project for Degree in Statistics (majors only)	

All courses are designed to have a strong practical application and the primary intention is to provide students with tools of quantitative analysis that have general applicability to other subjects studied at the University.

v) Course assessment: All the students enrolled in the Department of Statistics have to sit for written exams at the end of each semester.

Performance in a course shall be assessed on a numerical scale ranging from 0 to 100, and published course grades shall be on a six point letter scale according to the following equivalent:

A	=	80 and above means	Outstanding
B	=	70-79	" Very Good
C	=	60-69	" Good
D	=	50-59	" Pass
E	=	40-49	" Fail (supplementable)

At the end of each academic year, provided a student has not repeated a year, his/her over-all weighted mean (OWM) shall be the best possible weighted average computed from all core courses. Then come the following situation:

- Pass mark:	O.W.M. of at least 50
- Repetition:	O.W.M. from 40 to 49
- Discontinuation:	O.W.M. below 40 or failling into repeating category a second time.

vi) Awards

At the end of Year IV a student shall be awarded a B.A. (Stats.) degree if and only if he/she has an O.W.M. of at least 50.

10. Tuition fees

National 181 R
Foreign quota 481 R
Others 2025 R

The majority of non-nationals enter this institution as a result of United Nations grants given to refugees. The quota is about 20 per cent of the student population (which is approximately 800), grants are not usually given specially for study in a particular area. The students indicate their preference in their second year.

11. Application for entry

Sets of application forms are obtained from and returned to: The Admissions Secretary, National University of Lesotho, P.O. Roma, Lesotho. Fee for 1R for national and 5R for others. Forms should be returned within 30 days and not later than 1st April.

12. Living conditions

Most of the full-time students live in residence and the University is vigourously expanding present facilities.

Student enrollment in statistics course 1982/83 academic year ending May 1983.

Courses	Approximative number
ST102	130
ST201	167
ST202	150
ST203	23
ST205	21
ST209	41
ST210	30
ST212	80
ST220	8
ST301	4
ST303	15
ST304	9
ST305	10
ST306	13
ST307	42
ST308	20
ST333	15
ST402	2
ST404	50
ST406	10
ST420	6

1. Country: Nigeria
2. Name of the Centre: Department of Statistics
3. Attached to: University of Ibadan
4. Address: Department of Statistics
University of Ibadan
5. Name of the Director: Professor S.O. Adamu

6-7. Objects and Historical Background

The Department was established by Senate in 1965 but did not start functioning as an independent Unit until 1973. Prior to 1973, the training of prospective statisticians was largely limited to the Departments of Mathematics and Economics. Hence when a two-year course in statistics leading to a Professional Diploma in Statistics was established in 1965, to meet the urgent need for trained middle level professional statisticians, it was housed in the Department of Economics.

The initial primary emphasis of the Department of Statistics has been on the production of statisticians to reduce the critical manpower shortage and the offering of service courses to other teaching or research units of the University. The first degree programme is such as to maintain a judicious balance between theory and practice. The graduates have either found employment in various arms of government and the private sector or are pursuing postgraduate studies.

In 1977 higher degree programmes were introduced with an initial intake of four students for the one-year M.Sc. The first M.Sc graduates finished in October 1978. In continuation of its efforts to combat the manpower problem and in order to offer further training opportunities for working statisticians, a postgraduate diploma in statistics was initiated. The programme started with six students in 1978 with financial support from the Federal Office of Statistics on a crash training basis. As from October 1981, the Department will take full control and housing of the Professional Diploma in Statistics which was previously housed in the Department of Economics since its establishment.

Apart from the above, the Department runs two short courses, on a regular basis, during the months of August and September since 1978/79 session. These courses are:

Course A - Sample Survey Methods and Problems.

Course B - Remedial/Refresher Course in Statistics

	1978/79	1979/80	1980/81	1981/82
Course A	10	17	15	-
Course B	25	21	10	-

The Department also undertakes consulting work for those requiring statistical advice both from within and from outside the University. This is being organised under a unit of the Department known as Statistical Laboratory with one of the teaching staff as its Director.

The staff of the Department engage in research of both national and international interest in various aspects of methodology and general applications. Apart from their teaching, research and consulting commitments, some have and are offering national services in various forms e.g. serving as Chairman of the National Advisory Council on Statistics, as Chairman of a State Economic Council and as member of a special task force on Agricultural Statistics.

8. Academic Staff

The Academic staff is composed of the following full-time members (including one Indian) paid by the University of Ibadan:

2 Professors
3 Senior Lecturers
2 Lecturer Grade I
1 Lecturer Grade II
2 Assistant Lecturer
1 J. Research Fellow
1 Graduate Assistant

In addition we often have the service of consultants sponsored by ECA - STPA for a minimum of three months a session.

9. Teaching Programmes

All our teaching programmes are organised under the University semester system and courses are evaluated in terms of semester course units. A semester course unit is defined as one lecture/tutorial contact hour per week, or one three-hour laboratory or practical class per week throughout a semester teaching period (a period of fifteen weeks) or an equivalent amount of other assigned study or practical experience or any combination of these. The courses are graded in levels. A compulsory course is one that must be taken and passed, a required course must be taken but not necessarily passed while an elective course is taken in order to get enough units for the degree or diploma. All the courses offered in the Department for various programmes are listed later.

A. Professional Diploma in Statistics

(i) Duration: 2 years

(ii) Eligibility for Admission:

Candidates for admission to the course are selected from amongst those who hold:

(a) The West African School Certificate with passes at credit standard or the General Certificate of Education with passes at Ordinary Level in English Language, Mathematics and three other subjects, four other subjects if English Language is only a pass and not a credit.

(b) The Certificate of the Statistics Training Course of the Federal Office of Statistics Training School or its equivalent. Other candidates suitably recommended may be permitted to qualify for selection by taking the concessional entrance examination.

(iii) Output since 1977:

	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82
Output	12	28	16	20	22	24

1982/83 Registration for final year: 22

(iv) Regulation:

(a) Minimum Requirements for the Diploma:

100 Level Courses

Statistics:

Compulsory Courses: STA 111, 121, 131, 161, 162 (9 units)

Mathematics: At least 5 units must be passed

Economics: At least 4 units must be passed

Computer Science: At least 2 units must be passed

200 Level Courses

Statistics:

Compulsory Course STA 214, 222, 232, 261, 262, 291, 292 (13 units)

Required Courses At least 5 units selected from STA 233, 234, 241, 270 must be passed

There are other courses in Statistics, Mathematics, computer science and others from which to supplement to get adequate number of units for the Diploma.

Total number of units that can be registered for per semester is 14 or 28 per session.

(b) Awards:

To qualify for the award of a diploma, a candidate must be credited with a minimum of 20 units at each level. All courses are graded out of a maximum of 100 and the pass mark shall be 40. The Diploma is awarded either as pass or with distinction. A candidate will be awarded a distinction provided he obtains average mark of 70% or above in the best courses, including compulsory ones, totalling 24 units of 200 level courses. Minimum average mark for a pass is 40%. The average mark is a weighted average mark - each mark is weighten by its units.

B. B.Sc. Programme

(i) Duration: 3 years

(ii) Eligibility for Admission

(a) For direct entry and in addition to the general University regulation, candidates for single honours in Statistics must pass Mathematics and at least any other one subject (from the University approved list) at the G.C.E. Advanced Level or its equivalent, or

(b) Candidates must be holders of the University of Ibadan Professional Diploma in Statistics who hold minimum admission requirements for preliminary courses of the University of Ibadan.

(iii) Output since 1977:

	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82
Output:		13	8	30	15	5

1982/83 Registration for final: 15

(iv) Regulations:

(a) Minimum Degree Requirements:

100 level

Statistics:

Compulsory Courses: STA 111, 121, 161, 162 (6 units)

Mathematics: At least 6 units must be passed.

200 level

Statistics:

Compulsory Courses: STA 211, 213, 222 (6 units)

Required Courses: At least 6 units from STA 221, 233, 234 must be passed

Mathematics: At least 6 units must be passed

300 level

Statistics:

Compulsory Courses: At least 5 units from STA 311, 323, 336, 337, 370 must be passed:

There are other courses in statistics, mathematics computer science and others at different levels from which to supplement to get the necessary units for the degree.

Total number of course units that can be registered for per semester is 14 or 28 per session.

(b) Awards:

To qualify for the award of a degree, a candidate must be credited with a minimum of 20 units at each level. All courses are graded out of a maximum of 100 and the pass mark shall be 40.

The class of the degree shall be awarded on the basis of the final aggregate mark as follows:

70% and above	1st Class Honours
60% - 69%	2nd Class Honours Upper Division
50% - 59%	2nd Class Honours Lower Division
40% - 49%	3rd Class Honours

The final aggregate mark is based on the weighted average mark of the prescribed minimum number of units in the 200 and 300 levels including all the compulsory courses.

C. Postgraduate Diploma in Statistics

(i) Duration: One Session

(ii) Eligibility for Admission:
Candidates for admission to the programme shall normally be holders of the degree of Bachelor with some knowledge of Mathematics not below the level of the General Certificate of Education at Advanced level or its equivalent.

(iii) Intake and Output since 1978

	1978/79	1979/80	1980/81	1981/82
Output:	3	6	7	8

1982/83 Intake: 5

(iv) Regulations

(a) Minimum Requirement for the Diploma:

Candidates admitted for the courses shall be required to take and pass:

STA 411, 412, 413 and 450:

six units selected from STA 421, 422, 423, 424 and 425; and

a project. STA 401 which shall be given a weight of 4 units.

To qualify for the award of the Diploma, a candidate must be credited with a minimum of 22 units.

(b) Awards:

The diploma may be awarded with distributions to a candidate who attains an average score of 70% or above in the examination. Minimum average score for a pass is 40%.

D. M.Sc. Programme

(i) Duration: 1 year (12 months)

(ii) Eligibility for Admission:

Candidates for admission to the programme shall normally be graduates of the University of Ibadan or of other universities recognised by Senate, who possess the degree of bachelor in Statistics or related disciplines. Candidates who possess approved postgraduate diploma in Statistics or any relevant qualification and/or experience may also be considered for admission.

(iii) Intake and Output since 1978:

	1978/79	1979/80	1980/81	1981/82
Output:	4	7	3	8

Intake for 1980/81

(iv) Regulation:

Candidate admitted to the programme shall be required to take and pass:

STA 451, 461 and 462,

at least any two of STA 463, 464, 465, 466, 467, 468, 469, and 470 and a project which shall be weighted as 4 units.

To qualify for the award of the degree, a candidate must be credited with a minimum of 16 units.

E. M.Phil. Programme

a. Admission to the programme shall be open to:

(i) Candidates who have attained a 50% level of pass in the course examinations for the M.Sc. degree programme in statistics of the University of Ibadan, and made satisfactory progress in their projects.

(ii) Candidates who posses a masters degree in Statistics each case being considered on its merit.

b. Candidates admitted to the programme may be required to take relevant courses on the advice of the Department.

c. Areas of specialization shall be decided by candidates in consultation with the Head of Department and their supervisors.

d. The degree shall be awarded on the basis of a dissertation resulting from independent research.

F. Ph.D Programme

Admission to the programme shall be open to:

(i) Candidates who have attained a 60% level of pass in the course examinations for the M.Sc degree programme in Statistics of the University of Ibadan, and made satisfactory progress in their projects.

(ii) Candidates for the M.Phil. degree programme of the University of Ibadan who have satisfied the course requirement for the degree and been permitted by Senate to upgrade their registration on the basis of satisfactory progress in research.

(iii) Candidates who possess the M.Phil degree or equivalent qualification in Statistics; each case being considered in its own merit.

Candidates admitted to the programme may be required to take relevant courses on the advice of the Department Areas of specialization shall be decided by candidates, in consultation with the Head of Department and their supervisors.

The degree shall be awarded on the basis of a thesis embodying original contribution to knowledge.

Current Enrolment for M.Phil or Ph.D: 8

List of Courses:

100 Levels:

STA 101: Introductory Statistics I - 2 units
STA 111: Elementary Statistics I - 2 units
STA 121: Elementary Statistics II - 2 units
STA 131: Statistical Organisation - 2 units
STA 161: Statistics Practical I - 1 unit
STA 162: Statistics Practical II - 1 unit

200 Levels:

STA 201: Statistical Methods for Experimental Science - 2 units
STA 202: Statistical Methods for Social Sciences - 2 units
STA 211: Probability - 2 units
STA 213: Distribution Theory - 2 units
STA 214: Probability and Distribution Theory - 3 units
STA 221: Statistical Method I - 3 units
STA 222: Statistical Inference I - 2 units
STA 231: Statistical Quality Control - 2 units
STA 232: Introduction to Economic and Social Statistics - 2 units
STA 233: Sample Survey Design I - 3 units
STA 234: Experimental Design - 3 units
STA 241: Regression Analysis - 1 unit
STA 242: Introduction to Non-paramatric Methods - 1 unit
STA 243: Introduction to Multivariate Methods - 1 unit
STA 251: Introduction to Operations Research - 2 units

STA 261: Statistics Practical I-1 unit
STA 262: Statistics Practical II - 1 unit
STA 270: Introduction to Official Statistics - 2 units
STA 291: Assignment Essay - 2 units
STA 292: Practical Project - 3 units

300 Level:
STA 301: Practical Project - 3 units
STA 311: Introduction to Stochastic Processes - 2 units
STA 313: Distribution Theory II - 2 units
STA 322: Statistical Inference II - 2 units
STA 323: Logical Background of Statistics - 1 unit
STA 324: Sequential Analysis - 1 unit
STA 325: Non-parametric Methods - 2 units
STA 326: Multivariate Methods - 2 units
STA 327: Decision Theory - 1 unit
STA 331: Introduction to Time Series Analysis - 1 unit
STA 333: Econometric Methods - 2 units
STA 334: Psychometric Methods - 1 unit
STA 335: Biometric Methods - 2 units
STA 336: Experimental Design II - 2 units
STA 337: Sample Survey Design II - 2 units
STA 370: Official Statistics - 1 unit
STA 372: Demography - 2 units
STA 373: Introduction to Actuarial Statistics - 2 units
STA 374: Educational Statistics - 2 units
STA 375: Medical Statistics - 2 units

400 Level:
STA 401: Practical Project - 4 units
STA 411: Probability and Distribution Theory - 3 units
STA 412: Methods of Statistical Inference and Decision - 3 units
STA 413: Design and Analysis of Experiments and Surveys - 3 units
STA 421: Operations Research - 3 units

STA 422: Econometric Methods - 3 units
STA 423: Biometric Methods - 3 units
STA 424: Demographic Techniques - 3 units
STA 425: Multivariate Analysis - 3 units
STA 450: Official Statistics - 3 units
STA 451: Practical Project - 4 units
STA 461: General Statistical Theory - 3 units
STA 462: Advanced Statistical Methods - 3 units
STA 463: Design and Analysis of Experiments - 3 units
STA 464: Design and Analysis of Sample Surveys - 3 units
STA 465: Time Series
STA 466: Mathematical Programming and Games Theory - 3 units
STA 467: Advanced Econometric Methods - 3 units
STA 468: Advanced Demographic Analysis - 3 units
STA 469: Advanced Biometric Methods - 3 units
STA 470: Topics in the Methodology of Official Statistics - 3 units

10. Fees:

	Tuition	Residence	Students' Union
	₦	₦	₦
1. Nigerian Students			
1st Degree	-	90.00	3.05
Non-Degree Diploma	-	90.00	3.05
Postgraduate Diploma	200.00	90.00	3.05
M.Sc., M.Phil & Ph.D.	120.00	90.00	3.05
2. Foreign Students			
1st Degree	700.00	90.00	9.05
Non-degree Diploma	700.00	90.00	9.05
Postgraduate Diploma	1,000.00	90.00	9.05
M.Sc., M.Phil & Ph.D.	1,000.00	130.00	9.05

Student may feed in the University Cafetarias on the basis of pay-as-you-eat. A sum of ₦399.00, according to a Government directive, is to be charged for feeding for a session or ₦1.50 a day for 3 meals.

Note: The feeding rate was fixed quite sometime ago. Because of inflation and other factors, it is adviseable that the rate should be put at N5.00 per day for 3 meals in computing what to pay a sponsored scholar.

11. Fellowship:

University scholarships exist for higher degree to the value of N1,000.00 per session for non-sponsored students. There are other overseas' schemes. All are centrally administered.

12. Residential Arrangements:

Most university students are accommodated in Halls of Residence but there is also 'off campus' arrangement. For the B.Sc. programme, it is compulsory for a student to stay 'off campus' in the 2nd year of the course except for some exceptional cases like sportsmen/women. Higher degree students are normally in resident while postgraduate diploma students are 'off campus'. The 'off campus' arrangement is usually adequate because of reasonable accommodation around the University campus.

1.	Country	:	Tanzania
2.	Name	:	Eastern Africa Statistical Training Centre (EASTC)
3.	Attached to	:	University of Dar-es-Salaam
4.	Address	:	P.O. Box 35103, Dar-es-Salaam, Tanzania Telephone No. 48054 48309
5.	Name of the Director	:	Vitalis Eustach Muba

6. Aim:

The Centre trains sub-professional personnel in statistical methods and techniques at middle (certificate) and intermediate (diploma) levels. Socio-economic surveys (field projects) are organized and conducted by the Centre in collaboration with government agencies or parastals. The Centre may prepare, organize and advise on statistical seminars, workshops or conferences if called upon to do so by government agencies or parastals. It does, on alternate years, conduct an 8 week course for serving personnel without prior statistical knowledge who nevertheless may be required to perform simple statistical assignments.

7. Brief Historical Background

The Eastern Africa Statistical Training Centre (known as the East African Statistical Training Centre before April, 1978) was established in July, 1965. The third session of the conference of African statisticians held in Addis Ababa (October 1963) requested the United Nations Economic Commission for Africa (ECA) to assist in the establishment of a statistical training Centre for the East African sub-region. The birth of such a centre became a reality at a Nairobi meeting held in February, 1964 between the East African Common Services Organization (later transformed into the East African Community) and the United Nations. The Centre was handed over to the East African Community in August, 1972.

8. Academic Staff

The permanent academic staff comprises three senior lecturers and three lecturers with an average of six teaching hours per week. External lecturers are invited as and when need arises for about 300 hours in the year.

9. Courses

A. Certificate Course (Middle Level)

9.1 Duration: Ten months

9.2 Eligibility for admission:

To qualify for admission to the Certificate Course (Middle Level) a candidate should:

(a) Hold the ordinary level Certificate of education as a minimum qualification with passes in Mathematics and English. The Course is pretty difficult for students with a poor mathematical background.

(b) Have at least a year's working experience in statistical assignments.

(c) Pass an entrance examination organized by the Centre in November, each year.

9.3 Number of places offered in 1980/81: 70.

9.4 Teaching programme and regulations:

A. Certificate Level Course (Middle Level). The Centre started functioning with the Middle Level Course in August, 1965, and the first Intermediate Level course started in 1966. Both courses are of ten (10) months duration, beginning in July and ending in April, the following year. The training programme in the Certificate (Middle Level) course covers the following subjects.

(a)	Statistical Theory	120 hours
(b)	Applied Statistics	120 hours
(c)	Mathematics	180 hours
(d)	Economics	150 hours
(e)	Practicals (Statistical Computation and elements of accounting)	90 hours
(f)	Field Project	190 hours

Awards: Successful Certificate/Middle Level personnel are awarded Certificates.

Examinations: There are two examinations held during the ten months course i.e. terminal examinations held at the end of November and final examinations held in April. To pass the Centre's examinations a candidate has to score at least 50 per cent in each subject.

A candidate having passed each subject and having an average of at least 70 per cent is deemed to have passed with distinction.

B. Diploma Course (Intermediate Level)

1. Duration: ten months

2. Eligibility for admission

To qualify for admission a candidate should:

(a) Passes the Centre's certificate or other equivalent qualification e.g. a certificate of the Calcutta International Statistical Education Centre, a certificate of the Zambian in-service statistical training course or holders of the Stage I of the Institute of Statisticians.

(b) Pass the Centre's entrance examination.

3. Number of places offered in 1980/81: 30

4. Teaching programme covers the following subjects:

- Statistics Theory.....	180 hours
- Applied Statistics.....	120 hours
- Economics	150 hours
- Mathematics	210 hours
- Practicals	90 hours
- Field Project (survey).	190 hours

Awards: Successful Intermediate/Diploma personnel are awarded Diplomas

Examination: There are two examinations held during the ten months course i.e. terminal examination held at the beginning of November and final examination held in April. To pass the examination a candidate has to score at least 50 per cent in each subject. A candidate having passed each subject and having an average of at least 70 per cent is deemed to have passed with distinction.

C. Eight Week Short Course

This course which is organised specifically for those middle or lower level statistical personnel whose duties involve the use of Statistics but have had no formal training in Statistics, runs from mid-April to mid-June in alternate years. The programme consists of elementary Statistical Theory, Applied Statistics, Mathematics, Economics and Practicals. Currently this has been confined to participants from the host country i.e. Tanzania, but arrangements can be made to hold a similar course in any other user country which indicates the need.

10-11 Tuition Fees and Fellowships

Sponsoring governments or organisations are required to pay the fees which include all the costs of training. The amount of fees is worked out by the Advisory Board consisting of heads of statistical departments of all user countries. Currently the fees are US$5,650 per trainee excluding travel between the Centre and the student's home.

..

Sponsoring governments or organizations may arrange to meet the fees through fellowships from external donors. Where fellowships are granted directly to the Centre, the Advisory Board in consultation with the donor decide on their distribution between countries.

12. Living Conditions

Since its inception, the centre has been accommodated at the main campus of the University of Dar-es-Salaam where it occupies four offices and two lecture rooms. The students are housed at the University's halls of residence and are free to utilize the University Library as well as other socio-cultural facilities. The objective is for the Centre to have its own independent premises.

13. Intake and Output figures since 1977, todate.

Eastern Africa Statistical Training Centre Intake and Output figures for Certificate/Middle Level and Diploma/Intermediate Level 1977 to 1981.

YEAR	CERTIFICATE/MIDDLE LEVEL		DIPLOMA/INTERMEDIATE LEVEL	
	INTAKE	OUTPUT (Passes)	INTAKE	OUTPUT (Passes)
1977/78	23	21	16	16
1978/79	26	26	19	17
1979/80	66	35	28	21
1980/81	65	45	26	23
1981/82	61	*	32	*

* The results of the 1981/82 Final Examination were not known at the time of preparing this directory.

1. Country : Uganda
2. Name of the Centre : Institute of Statistics and Applied Economics (ISAE)
3. Attached to : Makerere University
4. Address : P.O. Box 7062, Kampala, Uganda
   Telephone: 59531 & 31213 Kampala
   Telegram: MAKUNIKA, KAMPALA
5. Director : Sam Tulya-Muhika
6. Object:

The main purpose is to provide high level professional training to nationals of the English-speaking African countries. With this object in view, a practical-oriented undergraduate programme for the award of a B.Sc. degree in Statistics and Economics from Makerere University has been in continual evolution since 1969. From experience, it was realised that a new programme needed to be developed in order that the training offered at the Institute would meet the most immediate needs of the countries of the region. With this purpose in view, a highly-professional oriented programme leading to the award of the Bachelor of Statistics Degree from Makerere University was introduced in July 1975.

The professional B.Sc. Programme, introduced in July 1969 was phased out in March 1977 and a new B.Sc. programme with relatively more theoretic bias, introduced in July 1975. In collaboration with the departments of Economics and Mathematics, the Institute made available a programme leading to B.Sc. degree in Economics and Statistics, and Mathematics and Statistics respectively.

The Institute is carrying out programmes for postgraduate studies as part of its training activities. With this in mind, the Institute will be organizing a professional postgraduate nine-month programme, leading to a Diploma in Statistics (Dip. Stat.) for re-training and training civil servants in the region. This has been in evolution since 1979 and slated to start in 1983. Under this programme successful candidates may opt to write a thesis after the Diploma course, and be eligible for the degree of Master of Statistics (M.Stat.) of Makerere University. Candidates will be able to specialize in any of the following areas:

(i) Economic Statistics
(ii) National Accounts
(iii) Agricultural Statistics
(iv) Demography and Social Statistics
(v) Sampling Technology and Data Processing

7. Historical Background

The Institute of Statistics and Applied Economics was established at Makerere University in July 1969 in accordance with the recommendations of a United Nations Experts Group on "The Education and Training of Statisticians in Africa", fielded in 1966.

The Institute is established as an autonomous institute within the legal framework of Makerere University. It has an Advisory Council which deals with policy guidelines for the operations of the Institute.

The membership of the Advisory Council of the Institute includes:

- Vice-Chancellor Makerere University (Chairman).
- Permanent Secretary, Ministry of Planning and Economic Development, Government of Uganda.
- Permanent Secretary, Ministry of Education, Government of Uganda.
- Permanent Secretary, Ministry of Regional Co-operation, Government of Uganda.
- Academic Registrar, Makerere University, Kampala.
- Representative of the Government of Kenya.
- Representative of the Government of Tanzania.
- Chief Government Statistician, Government of Uganda.
- Director, Eastern Africa Statistical Training Centre, Dar-es-Salaam.
- Dean, Faculty of Science, Makerere University, Kampala.
- Dean, Faculty of Social Sciences, Makerere University, Kampala.
- Director, Institute of Statistics and Applied Economics, Makerere University, Kampala. (Secretary)
- Technical Representative of the Executing Agency (UNDTCD)-ex-officio

Representative of UNDP, Kampala

Representative of FAO

Representative of UNESCO

Representative of ECA

The Project Manager (or equivalent)

Donor Agency Representative (as applicable)

8. Teaching Staff

Training staff of the Institute is two-grouped. The Government of Uganda provided a Director and various (counterpart) professional staff. The United Nations, Agencies of the United Nations and various other multi-national agencies provide experts and consultants in various areas of specialization in statistics.

9. Teaching Programmes

A. Undergraduate professional (B.Stat.) Programme

1. Duration: Three years

2. Eligibility for admission

To qualify for admission to the programme, a candidate must qualify to enter the University

i) as an A-level candidate, and, as a minimum requirement have obtained a Principal pass in Mathematics;

or

ii) must have obtained a good pass at Intermediate Professional level in Statistics;

iii) must have passed Part I (old Part II) of the Institute of Statisticians, London, or equivalent,

or

iv) must have spent one year doing a post O-level programme at a University, doing a programme involving Mathematics;

v) Candidates who do not have any of the above qualifications will be required to take a Mature Age Entrance Examination of Makerere University.

(Note: There are regulations in the University permitting applicants to join the 2nd year of study).

3. Number of places offered in 1983: 30

4. Regulations

i) Candidates shall be required to sit and pass examination papers in each year of study as follows:

First year: six papers and one practical examination

Second year: six papers and one practical examination

Third year: six papers and one practical examination

The pass mark shall be at least 40% for all examination papers.

ii) Progressive assessment shall contribute 33 1/3 to overall assessment in each of the second and third years of study. This shall be made up of all assessment other than examination papers. For the first year, progressive assessment shall contribute up to 33 1/3 (and not less than 25) in each paper.

5. Teaching Programmes

The summary outline of the programme to be taken will be as follows:

First year (11 months duration)

Statistics	:	two papers
Economics	:	two papers
Mathematics	:	two papers
Practical Examination	:	one four-hour paper
French	:	optional course (two hours)
Workshop	:	Nine weeks during University long vacation

Second year (11 months duration)

Statistics	:	three papers (3 hours for each examination paper)
Commerce	:	one paper (3 hours for the paper)
Economics	:	one paper (3 hours for the paper)
Mathematics	:	one paper (3 hours for the paper)
Practical Examination	:	one four-hour paper
Workshop	:	Nine weeks during University long vacation

Third Year (9 months duration)

Statistics	:	five papers (24 hours for each Statistics paper)
Economics	:	one paper (3 hours for the paper)
Practical Examination	:	one four-hour paper
Individual Research Project:	:	must be passed separately for the award of the B.Stat. degree

6. A. Awards

(i) To be admitted to the final year written examination, a candidate shall present a written acceptable report of a piece of research he designed and carried out.

(ii) The degree of B.Stat. shall be conferred upon a candidate who successfully completes the whole programme. The following classification of the degree shall prevail:

- Over 70 percent : First Class Honours
- 60 to 69 percent : Upper Second Class Honours
- 50 to 59 percent : Lower Second Class Honours
- 40 to 49 percent : Pass
- Below 40 percent : Fail

B. Undergraduate B.Sc. Programme

Duration: Three years

1. Admission: To be registered as a candidate for the degree of Bachelor of Science the individual must satisfy the entrance requirements of the University, the special requirements of the Faculty of Science and of the courses which he wishes to follow.

2. Qualifications: To qualify for the award of the degree of Bachelor of Science, the candidate is required to be registered for the degree for a minimum of three academic years, to follow courses as specified below and to sit for and pass the prescribed examinations.

3. Syllabuses

		Outline		
- First year	:	Statistics	:	two three-hour papers
	:	Economics	:	two three-hour papers
	:	Mathematics	:	two three-hour papers
- Second year	:	Statistics	:	three three-hour papers
	:	Economics	:	two three-hour papers
- Third year	:	Statistics	:	two three-hour papers
	:	Economics	:	two three-hour papers

C. Diploma in Statistics (Dip.Stat.) and Master of Statistics (M.Stat.)

The nine-months long Dip.Stat. programme is a demanding undertaking designed for highly-motivated, mature persons who want to make their leave of absence from their position in their home country as productive as possible. The training is through classroom lectures, seminars, discussions, extensive laboratory work, emphasising practical aspects to a greater depth. The structure of this programme is such that it provides for compulsory or core courses and optional courses relating to the area of specialization.

In addition to the regulations laid down, each candidate for the Dip.Stat./M.Stat. award must comply with relevant statutes of the University. Attention is drawn especially to University requirements or minimum residence and minimum as well as maximum period of registration which may be more extensive than indicated below.

The M.Stat. programme is an immediate follow-up of the Dip.Stat. programme and is awarded on the basis of a thesis of an acceptable standard on an approved topic. After fulfilling the residential requirements, the candidate may return to his national Bureau of Statistics or other office to write up his M.Stat. thesis.

Written examination for the Dip.Stat. shall be taken in all papers at the end of the academic year or soon after.

Regulations

To be considered for admission to the Dip.Stat./M.Stat. programme, the applicant must have as a minimum requirement:

(a) Have obtained a first degree in Statistics combined with Economics or Mathematics or an allied subject or equivalent professional training (e.g. B.Stat., M.I.S).

(b) Have obtained at least a second class lower degree or equivalent in the relevant training.

(c) Have worked in professional applied work for at least two years after graduation with any degree of at least lower second class or equivalent.

The duration of the Dip.Stat. programme will be one academic year of nine months. Candidates shall be required to sit and pass examination papers at the end of the courses as follows:

(a) Three compulsory subjects (one three-hour paper in each paper)

1. Statistical Methods
2. Design of sample surveys
3. Computer methods for statistical analysis

(b) One optional subject (2 papers, each 3 hours duration)

4. National Accounts
5. Demography and Social Statistics
6. Economic Statistics
7. Agricultural Statistics
8. Sampling technology } one option
9. Advanced computer techniques }

(c) One practical paper in the optional subject and one in the compulsory papers. Duration of each paper will be four hours.

The candidate shall be required to pass each compulsory subject individually and pass the optional subject on the aggregate. The pass marks shall be 50 percent. Progressive Assessment shall contribute 33 1/3 percent to overall assessment at the end of the course.

Candidates who fail any subjects in their examination shall be referred in the subjects after a period of about three months.

All candidates who satisfactorily complete the Dip.Stat. programme will qualify for the award of the Dip.Stat.

Candidates wishing to join M.Stat. programme are required to have obtained an overall good pass in the Dip.Stat. examination or equivalent.

Candidates wishing to do M.Stat. programme after the post-graduate Diploma in Statistics will be required to submit a thesis of acceptable standard on an approved topic, not earlier than 12 months from the date of registering for the M.Stat. programme.

10. Fellowships for Trainees

Lack of Fellowships is one aspect that often makes it difficult to implement regional training programmes. The following seem to be possible ways of raising fellowships to send students to this Institute.

(i) At the second session of the Joint Conference of African Planners, Statisticians and Demographers, the EEC representative indicated that the problem of fellowships should be solved within the framework of the multi-year training programme which the Commission of the European Communities has established with each ACP State at the request of and according to the priorities determined by the countries concerned. It is advisable that the ACP States reserve an adequate share of this programme for statistical training.

EEC would be willing to consider, within the framework of STPA, applications for fellowships from the individual countries concerned. The EEC Delegate in the user country could brief prospective candidates on how to go about this.

(ii) If the user country is a member of the Commonwealth of Nations, it could also apply to the Overseas Development Administration (ODA), U.K., for a fellowship from the Third World Fund. The Fund is meant to assist candidates from a Third World (Commonwealth) country to study in other Third World Commonwealth countries. The Commonwealth Fund for Technical Co-operation also sponsors some candidates from Commonwealth countries to study at the Institute. Correspondence on this matter should be sent to:

- The Statistical Adviser,
  Commonwealth Fund for Technical Co-operation
  Marlborough House
  Pall Mall
  London SW1 5HX

11. Living Conditions

University students are accommodated on the University campus in the University Halls of Residence.

INSTITUTE OF STATISTICS AND APPLIED ECONOMICS
MAKERERE UNIVERSITY

INTAKE AND OUTPUT FIGURES OF TRAINED
PERSONNEL SINCE 1977

	INTAKE			OUTPUT		
Year	B.Stat.	B.Sc.	Total	B.Stat.	B.Sc.	Total
1977/78	28	26	54	21	8	29
1978/79	27	49	76	15	27	42
1979/80	33	31	64	24	26	50
1980/81	28	36	64	22	21	43
TOTAL	116	142	258	82	82	164

FRENCH-SPEAKING CENTRES

1. Country : Algeria
2. Name of Centre : Institut des techniques de planification et d'économie appliquée (ITPEA)
3. Attached to : Ministry of Economic and Physical Planning
4. Address : 11, Chemin Doudou Mokhtar (formerly chemin de la Touche) BEN AKNOUN, EL DJAZAIR

   Téléphone 78-41-33
   78-41-39
5. Name of Director : Bennoune MAHFOUD
6. Object

The Institut des techniques de planification et d'économie appliquée (ITPEA) is an institute of higher education. Its aim is to train cadres for the planning section: Ingénieurs d'Application des Statistiques and economic analysts at grade XIII in the Algerian Civil Service.

These cadres are to serve not only in the Ministry of Economic and Physical Planning but also in other national institutions, central ministries and national enterprises.

Moreover, ITPEA contributes to the development efforts of sister and friendly countries by accepting the students of various nationalities put forward by their Governments as well as by international organizations such as UNDP.

7. Historical Background

The Institute was established by decree of 20 July 1970 within the framework of an extensive programme implemented in context of the first five-year plan.

Technological institutes were intended to provide rapid training for qualified manpower at various levels so as to meet the economic and social development reuirements of the country.

8. Academic staff

The academic staff of ITPEA is composed of 37 permanent teachers, eight part-time teachers and 12 associate teachers. The teaching staff are generally of Algerian nationality (86.16 per cent) and hold a third-level diploma (Higher studies, Masters, third level or State doctorate, professor).

9. Courses

9.1 Organization of studies

(a) Duration: The course lasts for eight terms

- 4 terms of common studies (first and second years)
- 3 terms of specialized studies in the third year and the first term of the fourth year
- 1 term of practical work at the end (second term of the fourth year)

(b) Common studies

During this period, the student is given basic training in order to acquire the fundamental concepts required to analyse economic problems as well as the mathematical and statistical tools required for quantification.

(c) Options

At the end of the common studies, depending on their results, students enter one of two streams:

- Economic analyses
- Statistics

For the two streams there are common units and specialized units.

9.2 Admission requirements

Algerian students in the last year of secondary education in the mathematics, science, economic and accounting streams or who hold a recognized equivalent diploma, are admitted into the first year by competitive examination.

It is possible for students who have completed four terms of an economic degree to be admitted into the third year, subject to a review of thier file.

The competitive examination is held each year in the month of September. Information on the date and arrangements for the examination are published in the press two months before it is held. A ministerial decree, which is published in the official journal, establishes the number of applicants per year which is generally 120.

The examination covers:

- Two general knowledge questions on social phenomena in the national language and in French.
- A mathematics question at the level of the final secondary class.
- An interview with the selection panel.

All the questions in the competitive exam are obligatory and any candidate who does not answer or hand in a copy for one subject authomatically fails.

9.3 Number of places in 1983: 120 including 10 to 20 foreign African students in accordance with the decision taken by the secretariat of State for Planning.

9.4 Subjects taught and number of hours

FIRST YEAR		SECOND YEAR	
Economic analyses	240h	Mathematics	180h
Mathematics	180h	Statistics	120h
Statistics	120h	History of underdevelopment	60h
Spatial analyses	60h	Theory of economic and International relations	60h
Administrative and political institutions	60h	Socialist political economy	90h
Economic and social history of Algeria	60h	National accounting	60h
Management accounting	60h	Special analysis	60h
Demographic analyses	60h	Economic and financial institutions	60h
		History of economic thought	60h

THIRD YEAR		
SUBJECTS COMMON TO THE TWO STREAMS (Analyses and Statistics)	STATISTICS STREAM	ECONOMIC ANALYSES STREAM
Theory of transition	Statistics	Planning of external relations
General and technical planning theory	Sampling	Manpower planning
Planning for the productive sector	Data analysis	Development project evaluation
Linear programming and theory of graphs		
Planning for units of production		
Coherence of development plans		
Organization of planning		
Econometrics		
Methodology		

FOURTH YEAR		
SUBJECTS COMMON TO THE TWO STREAMS (Analyses and Statistics)	STATISTICS	ECONOMIC ANALYSES
Regional planning	Computer sciences	Planning for social needs
Price planning		Seminar on energy problems
Demography		

9.5 Instruction

(a) Teaching methods

The subjects at ITPEA are taught through lectures and supervised work.

Moreover, throughout the training lectures are regularly scheduled on topical matters.

Visits are often received from statisticians practicing in national and foreign institutions.

(b) Assessment procedure

Knowledge is evaluated by continuous assessment (written or oral tests, reading, exposes, files etc.).

At the end of each course, short tests are held. A panel meets at the end of each term.

A promotion panel meets at the end of each academic year. The average required to go up into a higher year is 10.

Students are allowed to repeat only once during the course.

10. Tuition fees

In 1977, the tuition fees were:

- 10,546 Algerian dinars per student per year for full fees or
- 5,269 Algerian dinars per student per year for partial fees covering only tuition (classes, practical work lectures and documentation).

11. Fellowships

Algerian students who pass the competitive examination sign a ten year contract with the Ministry of Economic and Physical Planning and receive a partial salary during their studies.

12. Study and working conditions

Students who do not live in the administrative district of Algiers may board at the Institute, which has 250 places, at a cost of 150 Algerian dinars which is withheld from the students' salaries. Half board is possible for students living in the administrative district of EL DJAZAIR.

Transport is provided for staff and students twice a day from the Institute to the most important areas of EL DJAZAIR.

NUMBER OF REGISTRATIONS AND PASSES
FOR GRADUATES FROM 1977 TO 1980

		REGISTRATIONS (First year)	PASSES (Fourth year)
Fourth year	1973/74 to 1976/77	117 Students	79 Students
Fifth year	1974/75 to 1977/78	107 Students	90 Students
Sixth year	1975/76 to 1978/79	119 Students	61 Students
Seventh year	1976/77 to 1979/1980	131 Students	78 Students

1.	Country:	United Republic of Cameroon
2.	Name of Centre:	Institut de statistique de planification et d'économie appliquée (ISPEA)
3.	Attached to:	Ministry of the Economy and Planning
4.	Address:	P.O. Box 294, Yaoundé Cable address: CIFS-YAOUNDE Telephone: 22-01-34
5.	Name of Director:	Paul Ngogang

6. Aim:

The Institut de statistique de planification et d'économie appliquée is intended for students who have received a diploma at the end of their secondary studies and are to join the middle- and higher-level cadres of the body of statisticians which user countries need to produce the statistics required for their economic and social development.

7. Background

The idea of opening a statistical training centre at Yaoundé arose from the first Conference of African Statisticians which was held at Addis Ababa, Ethiopia, in September 1959. The Centre, which was set up in November 1961 under the auspices of the Economic Commission for Africa and the Cameroonian Government for the countries of Central Africa was known as the Centre international de formation statistique de Yaoundé (CIFS).

In January 1969, the Governing Council of the United Nations Development Programme (UNDP) approved a project relating to the establishment of a statistical training institute with a view to developing the old centre which had come to cover all interested French-speaking countries.

The statistical training institute became the Institut de statistique de planification et d'économie appliquée (INSEA) pursuant to a decree by the President of the Republic in 1976.

8. Academic staff

ISPEA has a core of 12 permanent teachers, most of whom are Cameroonian, 36 part time teachers and two consultants per year sent by INSEE and CESD. The Cameroonian teachers are statistical ingénieurs who are well experienced and qualified in their fields (mathematics, applied statistics, statistical practice). Assistants help with other basic subjects and particularly statistical methods and economics.

The part time staff, both Cameroonian and expatriate, are high-level officials or teachers at the University or other institutes of higher learning in Yaoundé. They give certain courses in applied economics and various other subjects.

9. Courses

ISPEA offers three courses:

9.1 Agents techniques de la statistique

9.1.1 Duration of the course: 9 months

9.1.2 Level of admission: Holders of the BEPC diploma (four years of secondary education).

9.1.3 Number of places in 1981: 25

9.1.4 Use of time: Instruction consists an average of 600 hours of theoretical classes and supervised work in addition to 125 hours of tests and a four-week period of practical work at the end of the course:

- Statistics	130 hours
- Mathematics	130 hours
- Economics	30 hours
- Economic geography	35 hours
- French	30 hours
- Demography	30 hours
- English	30 hours
- Statistical practice	125 hours
- Miscellaneous	40 hours
Total	580 hours

9.1.5 Assessment: Knowledge tested by weekly essays and quarterly examinations. All the marks obtained during the academic year are taken into consideration for the final results. Regular students must obtain a general average of at least 12 out of 20 to obtain the final diploma.

9.2.6 Academic year:

Starts:	1 October
Vacations:	2 weeks in December
	2 weeks in March
Practical work:	10 April to 10 May
Ends:	30 June

9.2 Adjoints techniques de la statistiques

9.2.1 Duration of course: 2 years

9.2.2 Level of admission: Holders of the preliminary baccalaureat

9.2.3 Number of places in 1981: 25

9.2.4 Use of time: The instruction offered to adjoints techniques consists of 650 hours of classes and supervised work and 140 hours of assessment in the first year. Those who are admitted to the second year receive 500 hours of theoretical classes and supervised work and 125 hours of assessment. During the entire course three months of practical work are required: one month in the first and two in the second.

Note will be taken of the importance attached to assessment: almost one hour out of four of classroom or supervised work.

The breakdown of the timetable is as follows by subject or group of subjects:

- Statistical methods..... 25 per cent
- Applied statistics ..... 26 per cent
- Mathematics ..... 22 per cent
- Economics, economic geography, enterprise accounting ..... 14 per cent
- Others ..... 13 per cent

9.2.5 Assessment

Knowledge is checked by weekly essays and quarterly examinations. All the marks obtained during the academic year are taken into consideration in determining students' results either for admission in a higher class or for the final diploma.

Regular students must obtain a general average of at least 12 out of 20.

9.2.6 Academic year

First year

Starts:	1 October
Ends:	20 June
Vacations:	2 weeks in March 2 weeks in December
Actual length of course:	32 weeks
Long holidays:	1 July to 31 August
Practical work:	1 month from 1 to 30 September

Second year

Starts: 1 October

Ends: 30 June

Vacations: 2 weeks in December
2 weeks in March

Actual length of course: 28 weeks

End of course: 10 April

Practical work: 2 month (April/May)

Examinations: 10-15 June

9.3 Ingénieurs d'application de la statistique

9.3.1 Duration of course: 3 years

9.3.2 Level of admission: Holders of series C baccalaureat

9.3.3 Number of places in 1981: 30

9.3.4 Use of time: Instruction consists of a common block lasting two years in which fundamental subjects are taught. The third year's programme contains two options relating to statistics and applied economics.

First year

Subject	Number of classroom and practical hours		
	Classroom	Practical work	Total
Mathematics	90	50	140
Descriptive statistics	60	40	100
Numerical calculus	20	16	36
Introduction to probability	30	18	48
Descriptive economics	100	40	140
Computer sciences	12	8	20
Other subjects			
Enterprise accounting and management	30	24	54
Economic geography	40	12	52
Drafting techniques	-	32	32
English	46	16	62
Practical work (1 month)			
T o t a l	428	256	684

Second year

Subject	Number of classroom and Practical hours		
	Classroom	Practical work	Total
Economic mathematics	60	40	100
Mathematical probability and statistics	50	40	90
Sampling theory and practice	30	15	45
Micro-economics	24	8	32
Macro-economics and growth	24	8	32
Enterprise economics	16	-	16
Economic exposes	-	24	24
National accounting	24	8	32
Planning	24	-	24
Introduction to econometrics	20	10	30
General demography	20	12	32
Price statistics	10	6	16
Budget and consumer surveys	10	6	16
Foreign trade statistics	10	6	16
Computer sciences	18	14	32
Case studies	-	24	24
Seminars	-	16	16
Other subjects			
Operational analytical accounting	16	12	28
Organization of a statistical service	8	-	8
Documentation and publications	-	16	16
English	34	12	46
Practical work: 2 months			
T o t a l	398	277	675

Third year

Statistical option			
Subject	No. of classroom & Practical hours	Subject	No. of classroom & practical hours
Data analysis	40	Economic analysis	40
Mathematical statistics	48	Development statistics	24
Sampling theory and practice	64	Planning system and case study	20
Indices theory	12	Planning techniques	16
Case study	48	Project analysis and evaluation and case studies	32
		Sectoral planning and case study	32
		Plan analysis	16
		Planning organization	10
		Essays and homeworks	24
		Applied econometrics	20
Total	212	Total	234

Subjects common to the two options	No. of classroom and practical hours
National accounting	32
Economic surveys	32
Agricultural statistics	20
Industrial statistics	20
Transport statistics	15
Labour statistics	15
Educational statistics	10
Health statistics	10
Computer science	32
Sociology and psychology of development	48
Seminars	26
English	46
Total	306

Practical work: 3 months

9.3.5 Teaching methods and assessment procedures

The teaching methods are based on the following four objectives:

1. To make the students capable of dealing with all kinds of problems which the statistician meets;
2. To give him special training in the field where he is most gifted or for which he demonstrates the most interest;
3. To develop in him imagination, judgement and capacity for analysis and synthesis,
4. To make him able to communicate and convince others.

The pedagogical methods used to allow these objectives are based on:

1. Team work, homework, exposes-discussions, personal research work, case studies, field demonstrations, seminars, preparation of final dissertation, observation and professional work in the fiel
2. Assessment is of a continuous nature and includes tests or oral questionning and evaluation of the students' work during the year for which specific marks are given;
3. In addition to the examination results, a general appreciation is made of each student. This covers the laboratory work, work in the field, work during the field attachment and the value of reports provided, as well as taking into account the behaviour and industriousness of each student.

9.3.6 Awards

(a) To advance to a higher class at the end of the school year students must obtain an average mark of 12 out of 20 or higher;

(b) Students who have obtained a mark lower than 12 out of 20 will, according to the mark they have received, be:

- Excluded from the Institute
- Allowed to repeat;
- Required to resit their examinations

According to the results of the resit examinations students will be:

- Allowed to advance to the higher class
- Allowed to repeat
- Excluded from the Institute

A student may repeat only once during the entire course.

Graduating students will rank according to their general average over the three years' course. Students who have obtained a general average equal to at least 12 out of 20 will be awarded the diploma of Ingénieur d'application de la statistique.

9.3.7 School year

First year

Starts:	1 October
Ends:	30 June
Vacations:	2 weeks in December 2 weeks in March
Actual length of course:	32 weeks
Examination results:	Second week in June
Resit examination:	First week in October
Long holidays:	2 months from 1 July to 30 August
Practical training:	1 month from 1 to 30 September

Second year

Starts:	1 November
Ends:	30 June
Vacations:	2 weeks in December 2 weeks in March
Examinations results:	
Resit examinations:	First week in October
Practical training:	2 months from 1 July to 30 August

Third year

Starts:	First week in October
Ends:	30 June
Vacations:	2 weeks in December 2 weeks in March
Actual length of course:	28 weeks
Defense of thesis of final terms:	between 15 and 30 June
Examinations results:	Second week in June
Resit examinations:	First week in October
Practical training:	2 months from 1 April to 30 May

(i) Ingénieurs d'application de la statistique

Candidates holding the second level series C (Mathematics) baccalaureat;

(ii) Adjoints techniques de la statistique

Candidates should hold the prelinary baccalaureat;

(iii) Agents techniques de la statistique

Candidates should hold the BEPC (four years of secondary education).

Candidates who wish to sit any of the examinations should fill out an application file which is available at the local statistical service. The file will include the following:

- Application
- Birth certificate
- Copy of the requisite diploma
- Certificate of nationality
- Medical certificate

The file should reach ISPEA before 15 April. Foreigners' files should be transmitted through the statistical department of the country of which the applicant is a national.

Applicants for the ingénieur d'application de la statistique course who are still in the last class of high school may sit the examination subject to their obtaining the baccalaureat.

The competitive examination is held in the first half of May. It is held in the capitals of all countries concerned under the responsibility of the local department of statistics.

The competitive examination for the ingénieurs is the same at the Abidjan and Kigali centres. The examination panel meets on 30 June at the latest under the auspices of CESD in Paris.

The results of the competitive entrance examinations are generally announced during the second half of July.

11. Tuition fees

Tuition fees are as follows:

Ingénieurs d'application:	360,000 CFA francs per year
Adjoints techniques:	300,000 CFA francs per year
Agents techniques:	180,000 CFA francs per year

12. Fellowships

ISPEA accepts only those students who have fellowships. However, admission to the Institute does not automatically imply that a fellowship will be granted.

The following institutions and agencies generally bear the costs of students at the Institute as long as they are requested to do so early enough by the user Government:

- United Nations Development Programme (UNDP)
- Commission of the European Communities (CEC)
- World Health Organization (WHO)
- Food and Agriculture Organization of the United Nations (FAO)

Requests for fellowships are absolutely independent of applications to sit the competitive examinations.

A growing number of students are paid for by their Governments. It is essential that they should complete all the administrative formalities before being sent to Yaounde so as to facilitate payment of their allowances.

13. Living conditions for foreigners

The Government facilitates entry into and stay in the United Republic of Cameroon for all foreign students who are admitted to participate in the activities of the Institute.

Medical care and hospitalization for students at ISPEA will be provided on the terms set out in the regulations in force in the United Republic of Cameroon.

Transport is provided for students by the Institute. There are lodging facilities (a total of 60 rooms).

Building will start on the new premises of the Institute in the very near future. The premises will inter alia comprise 15 classrooms with the total capacity of 500 places, an amphiteatre with 300 seats, 32 offices, a teachers' room, a reproduction room, a library and a cafeteria.

14. Miscellaneous

ISPEA from time to time hosts international seminars:

- Seminar on CENTS System (1975)
- Seminar on the Revised System of National Accounts (1975)
- Seminar on Household Surveys (1980)
- Seminar on the teaching of Demography in African statistical training centres (1982)

Enrolments by nationality and by Division as at 31 October 1982

Divisions / Nationalities	Ingenieur d'Application			Statistique		Adjoints techniques		Agents Techniques	Total
	First year	Second year	Third year	First year	Second year				
Benin	-	-	-	1	1			1	3
Burundi	-	-	-	-	-			1	1
Cameroon (Un.Rep)	13	13	15	11	12			16	80
C.A. Republic	1	-	-	1	-			4	6
Comoros	-	-	-	-	-			-	-
Congo	-	1	1	2	-			3	7
Djibouti	1	-	-	-	1			-	2
Gabon	-	-	1	1	-			-	2
Guinee	-	-	-	1	1			-	2
Upper Volta	-	1	1	1	1			2	6
Mali	-	-	-	-	1			-	1
Mauritania	-	-	-	-	-			-	-
Niger	-	-	-	-	-			-	-
Rwanda	-	-	-	-	1			-	1
Chad	2	-	-	-	-			1	3
Togo	-	-	-	4	-			1	5
Senegal	2	2	1	-	-			-	5
Zaire	1	-	-	-	-			-	1
T O T A L	20	17	19	22	18			29	125

1.	Country:	United Republic of Cameroon
2.	Name of the Centre:	Institut de formation et de recherche démographiques (IFORD)
3.	Attached to:	Ministère de l'économie et du plan
4.	Address:	B.P. 1556 Yaoundé (Cameroon) Tel. 22-24-72 Telex IFORD S/C PLUD 8304KN
5.	Director:	Julien Amégandjin

6. Object

The aim of the Institut de formation et de recherche démographiques is to promote and strengthen demographic training and research in all French-speaking African countries. In this connexion, the aims and objectives of the Institute are as follows:

- serve as a training and research centre in the field of demography and related areas;

- organize intensive training courses, refresher courses and seminars;

- undertake, direct and publish research work on demographic trends and their relationships with economic and social factors;

- undertake field research work in countries serviced by the Institute with the consent of the Governments of these countries;

- provide these countries with consultancy services in the field of demography and related areas.

7. Historical Background

The Institut de formation et de recherche démographiques was inaugurated at Yaoundé in November 1972 following an agreement signed between the Government of Cameroon and the United Nations Organization.

Until July 1982, IFORD was jointly financed and administered by its two founders.

The Institute has been regionalized since 1 July 1982. This regionalization started with the decentralization of the management of IFORD to the benefit of ECA and was completed with the extension of the membership of the Governing Council to all the Countries serviced by the Institute, numbering 25, and the implementation of new statutes adopted in 1982 by the United Nations General Assembly.

8. Teaching staff

The permanent teaching staff of the Institute is composed of 6 United Nations experts (including the Director), an expert from the French Technical Assistance, a United Nations associate expert and 3 Cameroonian demographers.

80 per cent of the over-all teaching is done by the permanent staff, 12 per cent by consultants (8 to 10) recruited from various agencies outside the host country, and 8 per cent by locally recruited visiting lecturers (5 to 7).

9. Teaching programme

9.1 Academic training

9.1.1 Objectives

The academic training which is geared towards providing countries serviced by the Institute with specialists in population studies is centred on four main objectives:

i) to give students a solid theoritical training in demography thus enabling them to analyse and interprete population data;

ii) to enable students acquire practical experience in data collection to help them undertake demographic data collection operations;

iii) to make it possible for students to understand the interactions between population growth and economic and social development, so as to make them experienced specialists capable of advising governments in formulating demographic policies;

iv) to introduce students to research work.

The second objective which constitutes the core of the training programme of the Institute is attained through the organization of a data collection project, designed, processed and analysed by the students of each batch under the supervision of the teaching staff.

9.1.2 Duration of the course: The training lasts for two years

9.1.3 Training programme

On the basis of the aforementioned objectives, the Institute's training programme gives relative importance to the major disciplines necessary for the masters of the tools for demographic analysis and fundamentals of economic and social sciences to better understand the relationships between demographic phenomena and socio-economic phenomena.

First year

Subject	Number of hours	Programme
I. Demography		
01 Introduction to demography	30	1st term
02 Mortality	40	1st terms
03 Nuptiality	15	1st term
04 Fertility	40	2nd term
05 Migrations	30	2nd term
06 Population situation	25	3rd term
07 Active population, school population	40	2nd and 3rd terms
08 Data collection	35	2nd and 3rd terms
09 Data processing	20	3rd term
II. Survey		
10 Preparation (training)	20	3rd term
11 Execution	PM	3rd term
III Quantitative Methods		
12 Mathematics (Group A)	50	1st and 2nd terms
13 Mathematics (Group B)	30	1st and 2nd terms
14 Descriptive statistics (Groups A & B_1)	45	1st and 2nd terms
15 Probability (Group A)	50	2nd and 3rd terms
16 Probability (Group B)	40	1st and 2nd terms
IV Miscellaneous Subjects		
17 SPSS seminar	60	3rd term
18 General Economics (Groups A & B_1)	50	1st, 2nd and 3rd terms
19 Group work (Group B_2)	15	1st, 2nd and 3rd terms
20 Public Health and Morbidity	20	3rd term
21 Written and oral expression technics	20	1st term
22 English	35	1st, 2nd and 3rd terms
23 Physical education	PM	
Total Group A	625	
Group B_1	595	
Group B_2	515	

Group A: Degree holders in Sociology, Geography
Group B_1: Degree holders in Mathematics } Group B
Group B_2: ITS, Degree holders in Economics }

Second year

	Subject	Number of hours	Programme
	I Demography		
201	Population movements and patterns	20	2nd term
202	Demographic trends	30	1st term
203	Evaluation and adjustment of inaccurate data	50	1st and 2nd terms
204	Active population, school population	40	1st term
205	Population policies	15	2nd term
206	Population theories	15	2nd and 3rd terms
207	Demographic surveys	20	1st, 2nd & 3rd terms
208	Survey results analysis	25	1st, 2nd & 3rd terms
209	Case studies	PM	
	II Survey		
210	Collection preparation	30	1st and 2nd terms
211	Processing preparation	20	2nd term
212	Training of supervisors	20	3rd term
	III Quantitative Methods		
213	Probability and Statistics (A)	50	1st and 2nd terms
214	Mathematical Statistics	50	1st and 2nd terms
215	Sampling	45	2nd and 3rd terms
	IV Miscellaneous Subjects		
216	Development Economics	25	1st term
217	Population and Development	50	2nd and 3rd terms
218	Population sociology	25	2nd term
219	Exposés	25	1st, 2nd & 3rd terms
220	English	30	1st, 2nd & 3rd terms
221	Training and research seminar	PM	1st, 2nd & 3rd terms
222	Physical education	PM	1st, 2nd & 3rd terms

Second year (cont'd)

	Subject	Number of hours	Programme
	V. Optional Subject		
223	Urbanization	25	2nd and 3rd terms
224	Population genetics	15	3rd term
225	Reproduction biology	15	3rd term
226	Mathematical Demography	15	3rd term
227	Multidimentional methods of data analysis	20	3rd term
	TOTAL	565	

9.1.4 Awards

The students take written examinations in each subject, varying from 1 to 4 depending on the duration and the number of hours involved. An average mark of 60 per cent is required for promotion from the 1st year to the 2nd and for obtaining the Diplôme d'études démographiques (DED) which marks the end of the training. However, a candidate in the 2nd year and scoring a weighted average mark of less than 50 per cent in the two subjects namely "survey analysis" and "case studies" may either be deferred to September session or denied the DED.

9.2 Practical induction course on research

Each year, the Institute organises an induction course in research for the new Diploma holders from the Institute or from other demographic centres.

This course which lasts one year enables the candidates to be introduced to research work by participating in the work of the Institute's Research Department and doing individual work under the supervision of more experienced demographers and in contact with several researchers.

No diploma is awarded after this course. However, at the end of it, each student is required to carry out a research work likely to be published or produced in the form of memoire of DEA in Demography (Diploma of in-depth studies).

9.3 Other training activities

9.3.1 Intensive introductory courses on demography and statistics

These courses are organised at national levels in countries which participate in the training cycle at the Institute and are based on duplicated lecture notes prepared by IFORD professors.

The training in this area is directed at persons holding middle-level qualifications such as Agents or Adjoints techniques de la statistique (certificate and diploma levels) from national statistical services, health statistics units and other appropriate services.

9.3.2 Refresher courses

Each course is organised on a particular theme recognised to be of current interest to all practising demographers in Africa.

These courses, of maximum duration of 4 weeks, are intended for active demographers.

Participants are selected on the basis of individual applications which are studied by a panel composed of representatives from IFORD and other agencies sponsoring the course.

The theme and the place of each course are decided by the same panel.

10. Admission requirements

Entry into the Institute's academic studies cycle is exclusively by competitive examination.

Holders of one of the following qualifications may be allowed to sit for the competitive examination:

i) Ingenieur des travaux statistiques (ITS)

ii) a Degree in geography, sociology, economics or mathematics

iii) a diploma equivalent to one of these two types of qualifications. The management of the Institute is the only body empowered to decide on the equivalence of the qualifications.

However, students in their final year and preparing for their degree examinations or completing their ITS courses in June of the same year, shall be allowed to sit for the competitive examination.

Their admission is granted on condition that they present their degree or ITS diploma by 15 July.

In view of the diversity of the previous training received by the candidates, the examination allows 2 options, A and B. The A option is intended for the holders of a degree in geography or sociology or an equivalent diploma; B option for ingenieurs des travaux statistiques or holders of a degree in economics or mathematics or an equivalent qualification.

Candidates are expected to satisfy the following three conditions if they should be allowed to follow the IFORD academic training cycle:

- pass the competitive entrance examination
- prove before or after the examination that they possess the required qualifications
- have their governments submit their applications for fellowship to IFORD

11. Tuition Fees

Fellowships are awarded to candidates from a global annual subvention allocated to IFORD by FNUAP. They cover all the expenses of the students, including expenses directly connected with their training.

12. Grants

IFORD admits only students who are scholarship holders.

Any student admitted on the basis of passing the entrance examination is authomatically awarded a scholarship by the Institute if his application is endorsed by the appropriate authority sponsoring demographic studies in his country of origin.

13. Living conditions of foreigners

On the basis of the Agreement that the Cameroonian Government had signed with the Institute, the former facilitates the entry into and stay in the Cameroonian territory by all foreigners admitted for the IFORD training cycle.

The Institute provides accommodation and means of transport to the students.

14. Research activities

IFORD's mission in the field of research has been clearly spelt out in the Institute's objectives indicated earlier.

It involves the promotion and strengthening of research in the field of population of the countries serviced by the Institute.

This mission as far as research is concerned is directed towards the following three types of activities:

i) undertake research work,

ii) prepare publications to facilitate the dissemination of information and knowledge on African populations;

iii) organise scientific meetings to popularise the work done in the region and facilitate exchange of ideas and experience between the specialists of the region.

IFORD cannot replace national institutions of demographic research or compete with them. Its mission is to conduct methodological types of research, studies at regional and sub-regional levels as well as all researches outside the framework of the countries taken individually. It is particularly incumbent upon it to formulate appropriate methodologies which take into account the realities of the region both at the level of data collection and analysis.

As far as the Institute is concerned, basic research does not constitute a priority. It is undertaken merely to provide accurate answers to specific questions.

Publications feature prominently among the activities of the Institute. They should be of assistance to all the countries serviced by the Institute and help in the promotion of demographic research in these countries; for, there can be no possible research development in the region without the means for adequate dissemination of knowledge and results of this research.

In this regard, IFORD has since 1979 been publishing a liaison bulletin which is an information instrument on the activities and the work done in Africa in the field of demography. This instrument also gives information on demographers working in the region.

Furthermore, since 1975 to-date, the Institute has published five issues of its magazine entitled Les Annales de l'IFORD devoted to publications on research work.

In the field of research, the Institute also has a mission to organise scientific meetings, such as symposia, seminars or workshops to enable the demographers of the region to exchange ideas and knowledge.

Table 2

Distribution of graduates by year of graduation and by country.

Year of graduation / Country	1974	1975	1976	1977	1978	1979	1980	1981	1982	Total
Algeria	-	-	-	1	-	2	-	-	-	3
Benin	1	-	4	-	-	-	1	1	-	7
Burundi	-	-	-	-	-	-	1	-	-	1
Cameroon	2	2	4	5	5	4	3	6	4	35
Central Afr. Rep.	-	-	-	-	-	-	2	-	-	2
Chad	-	-	-	1	-	-	2	-	-	3
Comoros	-	-	-	-	-	-	-	-	-	-
Congo	-	-	1	-	1	-	3	3	1	9
Ivory Cost	-	-	-	-	-	-	1	-	3	4
Djibouti	-	-	-	-	-	-	-	-	-	-
Gabon	-	-	-	-	-	-	-	-	-	-
Guinea	-	-	-	-	-	-	-	1	1	2
Madagascar	-	1	3	-	3	-	-	-	1	8
Mali	3	-	1	3	-	-	1	-	1	9
Morocco	-	-	-	-	-	-	-	-	-	-
Mauritius	-	-	-	-	-	-	-	-	-	-
Mauritania	-	-	-	1	-	-	-	-	-	1
Niger	-	-	-	-	-	-	-	-	-	-
Rwanda	-	-	-	-	-	-	1	-	-	1
Senegal	-	1	2	-	3	4	1	5	1	17
Seychelles	-	-	-	-	-	-	-	-	-	-
Togo	-	-	3	2	1	1	-	1	-	8
Tunisia	-	-	-	-	-	-	-	-	-	-
Upper Volta	-	-	1	-	1	-	-	1	2	5
Zaire	-	-	-	-	1	1	1	-	-	3
Total	6	4	19	13	15	12	17	18	14	118

TABLE 1

Results of competitive examinations by year and option.

Year	Number of Countries	Number of candidates			Number of successful candidates		
		Option A	Option B	Total	Option A	Option B	Total
1973*	5	3	5	8	3	5	8
1974	13	22	28	50	10	17	27
1975	12	24	29	53	9	12	21
1976	10	28	27	55	8	14	22
1977	14	50	20	78	12	11	23
1978	15	57	31	88	11	6	17
1979	16	67	53	120	7	11	18
1980	18	74	55	129	13	7	20
1981	17	69	128	197	9	13	22
1982	16	99	139	238	15	10	25

* There was not a competitive examination. The recruitment was made on the basis of qualifications.

1. Country : France

2. Name of Centre : Centre européen de formation des statisticiens économistes de pays en développement (CESD), Paris

3. Attached to : L'Ecole nationale de la statistique et de l'administration économique (ENSAE)

4. Address : 3, avenue Pierre Larousse
92240 - MALAKOFF, France
Téléphone. 540.10.07

5. Name of Director : Lamine DIOP

6. Aim:

The aim of the Centre européen de formation des statisticiens économistes des pays en développement (CESD-Paris) is to train high-level statistical cadres who in their countries will develop, manage and use statistical information for economic or social decision making at the national, regional or enterprise level. CESD also assists African statistical schools by organizing a common admission examination and sending teachers.

7. Background

CESD is a private association governed by the French law of 1 July 1901. It was founded in October 1962 by the Director General of the Statistical Office of the European Communities, the Director General of the General Department for Overseas Development of the Commission of the European Economic Communities, the Director General of the Statistical Institutes of countries members of EEC, the Director of Cultural and Technical Co-operation of the French Ministry of Co-operation and the Director of the Ecole nationale de la statistique et de l'administration économique of France.

The association is managed by a Governing Council composed mainly of European members.

8. Acadamic staff

CESD operates in close colaboration with ENSAE. Around 70 per cent of the courses are common to the two schools and are provided by teachers from ENSAE. For specific subjects (around 30 per cent) the Centre calls on visiting teachers (a total of 15 for 480 hours or so) with experience in the problems and specific characteristics of the economies of developing countries. The acadamic staff of ENSAE consists of 12 permanent and 300 part-time teachers.

9. Courses

CESD prepares students for the diploma of ingénieur statisticien économiste which is awarded at the end of a high-level theoretical course.

9.1 Duration of course: The course lasts for three years

9.2 Level of admission: The competitive entrance examination is open to students who have already several years of higher education (on average four) in mathematics or economics.

9.3 Number of places in 1982 : 30

9.4 Syllabus : Since students come from two different backgrounds, the first year of the course contains an economics option and mathematics option. The economics option is intended for students who have training in economics and the mathematics option for students with a scientific background. The aim of the training in the first year (economics option or mathematics option) is twofold.

Firstly to give students from the two backgrounds the supplementary training they require to follow common classes for the rest of the course and secondly, to give students an introduction to the basic subjects taught at the Centre.

First year : Economics option

- Mathematics ..... 230 hours
- Statistics and probability ..... 167 hours
- Economics ..... 75 hours
- Computer science ..... 25 hours
- Languages ..... 70 hours

The mathematics syllabus consists of certain subjects which are covered in the analysis syllabus in the special mathematics class (2 years of schooling in special lycées after the baccalaureat in the mathematics stream).

First year : Mathematics option

- Mathematics ..... 120 hours
- Statistics and probability ..... 152 hours
- Economics ..... 185 hours
- Enterprise accounting ..... 20 hours
- Computer science ..... 20 hours
- Languages ..... 70 hours

The introduction to economics consists of a presentation of the main economic facts and institutions and a brief expose of analytical tools as well as lectures with commentaries on the economic and statistical problems of developing countries.

Between the first and second year, first year students are obliged to carry out an attachment in an enterprise or administration of a developing country. In principle this attachment takes place during the months of July, August and September prior to the second year and lasts for about 10 weeks.

Second year

There are three groups of students in the second year. The first two groups are students in the economics and mathematical options from the first year. The second group comprises students admitted directly into the second year.

Course	Number of hours	Economics option	Mathematics option	Direct
Mathematics and Statistics				
Algorithms	20	x		x
Mathematical statistics	115	x	x	x
Applied statistics	15	x	x	x
Economics				
Economic theory	115	x	x	x
Growth models in developing countries	30	x	x	x
World economic system	40	x	x	x
National accounts	40	x	x	x
Public finance & budget	15	x	x	x
Other courses				
Demography	30	x	x	x
Development statistics	25	x	x	x
Introduction to enterprise accounting	20			x
Introduction to computer science	20			x
Languages	70	x	x	x

Note: An x in the column means that the course is obligatory for the group of students in question.

The economic theory course covers micro and macro economic theory.

The mathematical statistics course covers statistical decision making, estimates, hypotheses testing, linear modeling and variance analysis.

Third year

The third year consists of a common block of subjects and options.

A. Common block

Data analysis	20 hours
Econometrics	40 hours
Sampling theory	30 hours
General computer science	15 hours
Project evaluation theory	15 hours
Project selection	15 hours
Planning	15 hours
Economics and international institutions	15 hours
Survey processing techniques	15 hours
Stablisation and growth in developing countries	15 hours
Agriculture and economic development	15 hours
Simulation of annual forecast	50 hours

B. Optional subjects

Major in mathematics or statistical theory	205 hours
Major in economics	260 hours
Major in statistical practice	115 hours
Major in enterprise economics	147 hours

C. Group work 50 hours

The common block of subjects is obligatory. Each student in addition selects a certain number of optional subjects from the various majors and may participate in group work.

Group work consists of studying one of the technical subjects offered at the Centre dealing with the economy of the third world. The studies are undertaken by groups of three to four students under the direction of a teacher who acts merely as guide and advisor.

During the third year students frequently use the computers in the computer centre for the applied work.

9.5 Awards

At the end of each course lasting three months or six months, a written or oral examination is organized. For courses lasting one year, students sit two or three partial exams.

The average required to advance to a higher class or obtain a diploma is 12 out of 20.

Students are allowed to repeat a year only once during the course.

9.6 Acadamic year

School year begins early in October and ends on 30 June. An obligatory period of practical work of a minimum of 10 weeks is scheduled between the first and second years. Whenever financing is available, the practical work should be conducted on the African continent.

First year students should arrive about mid-September.

9.7 Research and post-graduate fellowships

Within the framework of agreements signed by ENSAE and some Universities of Paris, the students of CESD who have had a good attendance may be admitted to prepare simultaneously, during the third year, a Diplôme d'Etudes Approfondies (DEA).

Moreover, ENSAE is offering every year one or two research fellowships to the outgoing students in order to enable them to prepare for a doctorate degree.

10. Admission requirements

10.1 By diploma

The following students may be admitted by diploma in the first year (mathematics option):

- Holders of a Masters Degree in mathematics
- Holders of a diploma from a higher science school

The following students may be admitted by diploma in the first year (economics option).

- Holders of a Masters Degree in economics who have also passed a mathematics test designed to check the level of mathematics.

The following students may be admitted directly by diploma in the second year.

- Holders of a Masters Degree in mathematics or a diploma from a higher science school who also have a sound background in economics, calculus and the theory of probability.

10.2 By competitive examination

(a) The following may sit the competitive exam for admission to the Ingénieur statisticien économiste (ISE) course, mathematics option:

Students who have registered in a special mathematics class or Students who have registered in the second year of a first degree course in mathematics at a university.

Applicants for the economics option should have registered in the fourth year of an economics faculty.

(b) Holders of the diploma of Ingénieur des travaux statistiques can also sit the ISE competitive exam in either the mathematics or the economics option.

10.3 Registration

Persons wishing to be admitted by diploma or by one of the CESD competitive examinations should fill out a registration form which is available from the local statistical service or the secretariat of CESD for applicants residing in Europe.

The form should be returned to the local statistical service by 15 March at the latest.

Applications for admission by diploma can be accepted up to 1 June inclusive, which is the cut-off date.

10.4 Examination results

The competitive examinations for admission take place in the first half of May. The examination will be held in the capital of each of the countries concerned. There is also an examination centre at Malakoff.

The Panel which rules on admissions by diploma and by examination will meet by 30 June at the latest. Successful candidates are informed by letter by 10 July at the latest.

11. Tuition fees

The tuition fees are 7,500 French francs per year for the school year 1982/1983.

12. Fellowships

Admission to CESD does not automatically guarantee a fellowship and CESD can also accept students who do not have fellowship.

It is however up to the candidates, in conjunction with department of statistics or the Ministry of Foreign Affairs, of the civil service or of national education in their countries to fill out an application for a fellowship.

The Government in the candidate's country of origin may itself award a fellowship or submit the request to an aid agency.

Students admitted to CESD should preferably have a fellowship from EDS, FAC or the United Nations because the amount of some national fellowship is not sufficient to enable students be trained satisfactorily and in particular finance the practical work in Africa scheduled during the course.

13. Living conditions

CESD holds 19 rooms at the Cite Universitaire and allocates them as a matter of priority to first-year students whose resources are less than 1,000 francs per month.

CESD

Number of intake and output.

	1976/1977	1977/1978	1978/1979	1979/1980	1980/1981	1981/1982
Third year						
Intake	23	10	15	20	20	22
Output	23	10	15	20	20	22
Second year						
Intake	11	16	21	22	23	19
Output	10	15	20	20	22	19
First year						
Intake	21	21	26	25	19	21
Output	16	20	21	21	18	15

TABLE 1

Distribution of "Ingénieurs Statisticiens Economistes" graduates by year and by country.

	1964 - 1974	1975	1976	1977	1978	1979	1980	1981	1982	Total
Algeria	8	-	-	2	-	-	2	1	2	15
Benin	4	-	-	2	1	-	2	6	1	16
Burundi	-	1	-	-	-	-	-	-	-	1
Cameroon (United Rep.)	11	2	4	3	2	4	6	-	2	34
Central Africa Rep.	-	-	1	1	-	-	1	-	-	3
Chad	-	-	1	-	-	-	-	-	-	1
Comoros	-	-	-	-	-	-	-	-	-	-
Congo	2	-	1	-	-	1	-	1	1	6
Ivory Cost	3	-	1	2	1	-	3	2	4	16
Gabon	-	-	-	-	-	-	-	-	1	1
Guinea	2	-	-	1	-	-	-	-	-	3
Madagascar	7	1	1	-	2	-	-	-	2	13
Mali	6	2	2	1	-	2	-	4	2	19
Mauritius	-	-	-	-	-	2	1	-	-	3
Mauritania	2	-	-	-	-	-	-	-	1	3
Morocco	21	-	-	2	-	-	1	-	-	24
Niger	1	-	-	-	1	-	-	-	-	2
Rwanda	-	-	-	-	-	-	-	-	-	-
Senegal	7	2	1	1	1	4	2	3	4	25
Togo	3	2	-	-	-	-	-	-	1	6
Tunisia	-	-	4	7	2	-	1	2	1	17
Upper Volta	2	-	2	-	-	1	-	1	-	6
TOTAL	79	10	18	22	10	14	19	20	22	214

TABLE 2

Distribution of "Ingenieurs des Travaux Statistiques" graduates of CESD by year and by country.

	1963 - 1969	1970	1971	1972	1973	1974	1975	1976	1977	Total
Algeria	-	-	-	1	-	-	-	-	-	1
Benin	3	-	1	1	-	3	-	-	3	11
Cameroon (United Rep.)	24	6	14	3	1	1	4	3	-	56
Chad	1	-	-	-	-	2	-	-	1	4
Congo	1	-	1	1	-	-	-	-	-	3
Ethiopia	1	-	-	-	-	-	-	-	-	1
Ivory Cost	1	-	-	-	-	-	1	-	-	2
Gabon	1	-	-	-	-	-	-	-	-	1
Guinea	1	-	-	-	-	-	-	-	-	1
Madagascar	30	4	1	-	6	1	-	1	-	43
Mali	7	1	4	6	12	2	2	1	2	37
Morocco	-	-	-	-	-	-	1	-	-	1
Rwanda	2	-	-	-	-	-	-	-	-	2
Senegal	6	-	-	-	-	2	6	1	1	16
Somalia	2	-	-	-	-	-	-	-	-	2
Togo	9	-	1	-	1	2	3	1	2	19
Tunisia	-	-	-	-	-	1	-	1	-	2
Upper Volta	2	-	-	1	-	1	-	-	-	4
Zaire	1	-	-	-	-	-	-	-	-	1
TOTAL	93	11	22	13	20	15	17	8	9	208

1. Country : The Ivory Coast

2. Name of Centre : Ecole nationale supérieure de statistique et d'Economie Appliquée (ENSEA)

3. Attached to : Ministry of Plan and Industry

4. Address : 08 B.P. 3 Abidjan 08

Telephone: 44-08-40
44-08-42

5. Name of Director: Francois Yattien Amiguet

6. Aim:

The Ecole nationale supérieure de statistique et d'économie appliquée (ENSEA) is an establishment which provides statistical training at both the higher and the middle levels. Its aim is to train ingénieurs statisticiens économistes (ISE), ingénieurs des travaux statistiques (ITS), adjoints techniques de la statistique and agents techniques de la statistique and also to ensure continued education for French-speaking African countries.

The ingénieurs des travaux statistiques will occupy responsible positions in the Administration or large enterprises dealing with the preparation, dissemination and utilization of economic information which is collected and prepared by the agents techniques under the supervision of the adjoints techniques.

7. Background

The establishment was created in 1961 as a school of applied statistics attached to the department of statistics for the purpose of training technical staff. In 1963 the ingénieurs des travaux statistiques section was opened and the centre became the Ecole de statistique. The adjoints techniques section was opened in 1967. By a law of June 1969, the Ecole nationale supérieure de statistique et d'économie appliquée was converted into a public establishment of higher learning with legal status and financial autonomy. It is headed by a management advisory board composed of 8 members. Since March 1982, the objective of the school was extended to train ingénieurs statisticiens économistes and to ensure continued education.

8. Academic staff

In the academic year 1982/83, the full-time academic staff consisted of four INSEE statisticians and a physical education and sports teacher, a total of seven.

The recruitment of ingénieurs statisticiens économistes and demographers as lecturers has started in October 1982 of two Ivorians of which one is an information scientist.

There are also 36 part-time teachers who provide some 4,000 course hours per year. The training of ingénieurs statisticiens économistes has not started yet.

9. Courses

9.1 Ingenieurs des travaux statistiques

9.1.1 Duration of the course: Training in this section lasts for three or four years depending on whether students are admitted into the first year by direct competitive exam or into the preparatory year by direct competitive examination or professional competitive examination.

9.1.2 Level of admission: Applicants should have passed the baccalaureat preferably in the science stream. The level of the mathematics tests is that of the science and technical streams in the last classes in high school or college. Applicants may be admitted on the basis of their qualifications after their files have been studied and as long as they hold a DUES or a recognized equivalent diploma.

9.1.3 Number of places in 1981: 15 in the first year
20 in the preparatory year

9.1.4 Use of time: Over the entire four years of training including the preparatory year, the 2,335 classroom and practical hours are divided as follows by major subjects not counting the practical attachment at the end of the course:

Mathematics	15 per cent
Statistics and demography	31 per cent
Economics	28 per cent
Computer science	10 per cent
Languages	8 per cent
Miscellaneous and case studies	8 per cent

The main aim of the preparatory year is to bring students in high schools to the required standard in mathematics (350 hours of classes and supervised work out of a total of 610 hours). They are also given an introduction to the basic subject taught at the school, viz, statistics. The language and contemporary civilization classes train students to collect documentation and present it orally or in the form of reports or summaries, to discuss it or read it in English and translate it.

In the first year students learn mathematical analysis and linear algebra which are required to tackle the mathematical statistics, economics and planning techniques programmes. Basic courses in statistical elaboration and analysis, probability and demographic analysis are given. Students begin general economics by studying factors and units of production, revenue and economic fluctuations and follow a course in economic accounts.

In the second year the theoritical education continues with mathematical statistics, but the application of statistical methods to variou economic fields and demography take an important place in the timetable. Similarly the theoretical training in economic mechanisms is supplemente by a course on underdevelopment leading to a more practical planning. A 30-hour compulsory course of multivariate analysis has been introduced since October 1980.

In the third year students receive complementary basic education during the first term. At the same time either individually or in groups of two or three, they carry out a case study which makes them spend around 100 hours applying the knowledge they have learned at the school. The last six months are reserved exclusively for practical work aimed primarily at giving the students a more specific understandin of their future tasks and familiarizing them with practical difficulties and problems which they may encounter during their professional life. Moreover a large part of the time in the third year is reserved for further specialization in the following four options: computer science, management, applied statistics and demography.

9.1.5 Assessment

Every week all students in the school are required to perform one or two exercises or sit a test; the ratings given for these will be taken into consideration with regard to promotion to higher classes and the award of diplomas.

Preparatory year

Subject	Co-efficient	Indicative annual figure: Written examination	Indicative annual figure: Oral examination
Algebra	21	6	1
Mathematical analysis	27	6	1
Numerical analysis and calculus	8	2	-
Descriptive analysis	11	4	1
Contemporary civilization	12	4	1
Economic geography	6	2	-
English	6	1	1
Physical education	(5)	-	-
General assessment	9	-	-
T o t a l	100	25	5

In the first and second years there are also five oral examinations during the year and 31 written examinations in the first year and 24 in the second year.

It should be noted that:

1. The length of written tests is left to the discretion of the teacher but should fall within the range of one and a half to three and a half hours;

2. The general assessment which is made at all levels takes into account all the work done throughout the year, the industriousness and general behaviour of the student;

3. For physical education, only notes between 12 and 20 will be counted.

9.1.6 Awards

To be promoted to a higher class, students must obtain a general average of at least 12 out of 20.

Apart from very exceptional cases such as long-term sickness, repeats of the preparatory year are not allowed.

A panel may agree to students whose average is between 10 and 12 repeating.

The final ranking of students is based on the general total of marks obtained throughout the three years' courses.

Students who in each of their years of study have achieved a general average of at least 12 out of 20 are awarded the diploma of Ingénieur des travaux statistiques.

9.2 Adjoints techniques de la statistique

9.2.1 Duration of the course: Two years

9.2.2 Level of admission: Applicants must have attended one of the final classes in the science stream in high schools or colleges.

9.2.3 Number of places in 1982: 25

9.2.4 Use of time: The over-all break-down of the 1,070 hours of classes and supervised work during the two years' course is as follows:

Mathematics	12 per cent
Statistics and demography	43 per cent
Economics	18 per cent
Computer science	6 per cent
Miscellaneous	21 per cent

In the first year students also receive general education in mathematics and French. Descriptive statistics and economic account for 63 per cent of the time.

The second year is reserved for more practical training apart from 90 hours of statistical analyses and 50 hours of general economics. The other statistical courses are designed to inculcate the principles of applying statistics to various economic fields.

The last two months are reserved for practical work generally undertaken in the context of the school's activities (actual work, training in the field or processing of a statistical survey). It may, however, also take place in the department of statistics or other statistical or technical services of the public or private sector.

9.2.5 Assessment

Students sit 28 written examinations and four oral examinations in the first year. An assessment is also made every week in the second year when there is an average of 18 written and three oral examinations.

The length of written examinations is left to the discretion of the teacher but should range from one and half to three and a half hours. A general assessment (co-efficient 9) is made of all the work done during the year, the industriousness and the general behaviour of the students.

9.2.6 Awards

The general average required to pass the different examinations at the end of the academic year is 12 out of 20. Only the examinors are empowered to take decisions on students repeating years.

Students who at the end of their studies have obtained a general average of at least 12 out of 20 are awarded the diploma of adjoint technique.

9.3 Agents techniques

9.3.1 Duration of course: 1 year

9.3.2 Level of admission: Candidates should have had five years of schooling in high schools or colleges.

9.3.3 Number of places in 1982: 25

9.3.4 Use of time: The total number of hours spent in the classroom and on supervised work is around 460, broken down as follows:

Statistics and demography	60 per cent
Mathematics	7 per cent
Economics	7 per cent
Practical work	11 per cent
Miscellaneous	15 per cent

Subject	Number of hours: Classes	Number of hours: Supervised work
A. GENERAL EDUCATION	80	40
1. Mathematics	20	10
2. French	40	20
3. Economic geography	20	10
B. STATISTICS	145	130
4. Statistical method and calculation	70	50
5. Statistical organization and preparation	30	30
6. Price, labour and household budget statistics	20	20
7. Demography	15	20
8. Agricultural statistics	10	10
C. MISCELLANEOUS	15	50
9. Introductory economics and economic accounting	15	15
	-	35
	240	220

For the practical work, which lasts one month at the end of the course, students participate as enumerators in a field operation organized by the administration of the school. During the work they are introduced in a concrete way to the various problems involved in the collection of statistical data in Africa.

9.3.5 Assessment

Subject	Co-efficient	Average number per year: Written examinations	Average number per year: Oral examinations
Mathematics	5	1	1
French	10	2	1
Economic geography	5	1	-
Statistical method and calculation	20	6	1
Statistical organization and preparation	10	2	-
Price, labour and household budget statistics	7	2	-
Demography	8	2	-
Agricultural statistics	3	1	-
Introductory economics and economic accounting	7	1	-
Physical education	(5)	-	-
Practical work	16	-	-
General assessment	9	-	-

Note: In physical education only marks between 12 and 20 are counted.

9.3.6 Awards

Students who obtain a general average of at least 12 out of 20 are awarded the diploma of Agent technique.

The Board of Teachers may decide whether students whose general average is between 10 and 12 out of 20 may repeat.

10. Admission requirements

Admission to the Ecole de statistique d'Abidjan is open to all students who have submitted a full application form in due time and who are successful in the competitive exam or who are admitted by the admission panel on the basis of their qualifications.

There are two admission systems for each section:

- Direct competitive exam
- Professional competitive exam

The latter is reserved for candidates who have professional experience in the public or private sector.

The applicant's file should contain the following:

1. Application
2. Curriculum vitae
3. Birth certificate
4. Copy of required diplomas or school certificates
5. Medical certificate
6. Stamps for the return of the file
7. A passport photo

The file should reach the school before 1 March.

The files of persons who are not nationals of the Ivory Coast should be transmitted through the Department of Statistics of the applicant's country of origin.

11. Tuition fees

The tuition fees are as follows for the various levels of training:

Ingénieur des travaux statistiques:	35,000	CFA	francs	per	month
Adjoints techniques de la statistique	30,000	"	"	"	"
Agents techniques	25,000	"	"	"	"

Payable over a period of nine months.

12. Fellowships

The school accepts only students with fellowships.

Fellowship applications are totally unrelated to students' admission applications or registration for the competitive entrance examinations.

The Government of the country of origin of the candidate may on its part grant a fellowship or submit a request to an aid agency such as UNDP, EEC, WHO, USAID, FAC or FAO. Around 90 per cent of the former students of ENSEA received fellowships from those agencies.

13. Living conditions for foreign students

Students are accommodated at the Cité Universitaire in Abidjan. The cost of a room is 3000 cfa francs per month and a meal ticket is 75 cfa francs(these rates are presently being reviewed).

Transport is provided by the school.

The construction of final buildings should start in 1984 thanks to the support of the European Development Fund (EDF) and the Government.

14. Miscellaneous

The school shelters as from 1981 regional and international seminars, e.g. the seminar on agricultural surveys (July-August 1981).

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Ministry of the Planning and Industry
Ecole nationale supérieure de statistique et d'économie appliquée

5. Number of diplomas by country and by section

Country	Agent-Technique diploma			Adjoint Technique diploma			ITS diploma			T o t a l		
	1979 1980	1980 1981	1981 1982	1979 1980	1980 1981	1981 1982	1979 1980	1980 1981	1981 1982	1979 1980	1980 1981	1981 1982
Benin	-	-	-	-	-	-	1	-	2	1	-	2
Central African Republic	1	1	2	-	1	-	-	1	-	1	3	2
Chad	-	-	-	-	-	-	1	-	-	1	-	-
Congo	8	3	4	2	3	-	-	1	1	10	7	5
Gabon	-	-	-	-	-	-	-	-	-	-	-	-
Ivory Coast	7	7	7	5	9	2	5	11	10	17	27	19
Mali	-	1	1	1	2	-	4	3	-	5	6	1
Niger	-	-	1	-	-	-	-	-	-	-	-	1
Rwanda	1	-	-	2	-	-	-	-	-	3	-	-
Senegal	-	-	-	-	-	-	-	-	-	-	-	-
Togo	-	-	-	5	-	4	2	-	1	7	-	5
Upper Volta	5	2	2	1	2	4	-	1	3	6	5	9
Zaire	-	-	-	-	-	-	-	-	-	-	-	-
T o t a l	22	14	17	16	17	10	13	17	17	51	48	44

Ministry of Planning and Industry

Ecole nationale supérieure de statistique et d'économie appliquée

9-Number of students by country and by section 1980/81 academic year

Situation as of 10 November 1981

Country	I T S (1)					A D (1)			A.T. (1)	Total 1981	T o t a l	
	IT.3	IT.2	IT.1	Prepa-ratory	Total	AD.2	AD.1	Total			1978/79	1979/80
Benin	-	2	1	-	3	-	-	-	-	3	2	2
Central African Rep.	1	-	-	-	1	1	-	1	1	3	5	4
Chad	-	-	-	-	-	-	-	-	-	-	2	1
Congo	1	1	3	2	7	3	-	3	3	13	14	18
Gabon	-	-	-	-	-	-	-	-	1	1	-	-
Ivory Coast	11	10	12	6	39	9	2	11	9	59	50	50
Mali	3	-	2	-	5	2	-	2	-	7	11	13
Madagascar	-	-	2	-	2	-	-	-	-	2	-	-
Mauritania	-	-	1	1	2	-	-	-	-	2	-	1
Rwanda	-	-	-	-	-	-	-	-	-	-	3	3
Senegal	-	-	-	1	1	-	-	-	-	1	1	-
Togo	-	1	2	1	4	-	4	4	-	8	9	10
Upper Volta	1	4	-	1	6	2	5	7	2	15	5	13
Zaire	-	-	-	-	-	-	-	-	-	-	1	-
T o t a l	17	18	23	12	70	17	11	28	16	114	102	124

(1) ITS: Ingénieurs des Travaux statistiques

A D: Adjoints Techniques de la statistique

A T: Agents Techniques de la statistique

1. Country : Morocco
2. Name of centre : Institut National de Statistique et d'Economie Appliquée (INSEA)
3. Attached to : Ministry of Plan and Regional Development
4. Address : B.P. 406, Rabat (Morocco)
   Tele. 709.15/23/26
5. Name of Director : Mustafa Benyaklef

6. Aim:

The Institut National de Statistique et d'Economie Appliquée provides training for professional and middle-level staff in statistics, applied economics and information sciences for future employment in the Administration, semi-public agencies and the private sector. INSEA accepts foreign students as well as Moroccan ones.

7. Background

INSEA was established initially as the Centre de formation des ingénieurs des travaux statistiques (CFITS) in December 1961 under the auspices of the Moroccan Government with the assistance of the United Nations Economic Commission for Africa. CFITS was changed into INSEA in April 1967 by royal decree.

8. Academic staff

The policy which was introduced over ten years ago to train Moroccan teachers continues to be applied actively. The teaching staff comprises:

- Full-time teachers : 25 (Moroccans)
- Part-time teachers : 60
- Consultants : 3 (expatriate)

The part-time teachers on average give three hours of classes per week or one third of the average for a full-time teacher. They are generally university members or statisticians who are already working. Moreover students following the ingénieurs statisticiens économistes course supervise practical work in other departments.

9. Courses

INSEA now offers five different courses:

(i) information science:
   - Ingénieurs analystes informaticiens (IAI)
   - Adjoints techniques programmeurs (ATP)

(ii) Statistics:

- Ingénieurs statisticiens économistes (ISE)
- Ingénieurs d'application de la statistique (IAS)
- Adjoints techniques de la statistique (ATS)

There is also an actuary option in the IAS course.

9.1 Instruction

The instruction at INSEA comprises official lectures, practical work, seminars, other lectures and research work.

There are some 22 class hours a week for all courses except ISE which has 12 so as to enable students to work on individual research which is essential at this level.

Students' knowledge is continually checked through their homework or examinations where the ratings are taken into consideration for advancement to the next class and for the award of diplomas.

9.2 Academic year

The academic year begins on 1 October and ends towards the end of July for studies which include periods of attachment or thesis. It is divided into three terms of ten weeks each.

Students are given the university holidays established by the Ministry of National Education.

9.3 Courses

9.3.1 Ingénieurs statisticiens economistes (ISE)

(i) Duration of course: 2 years

(ii) Admission requirements: Admission is based on a competitive examination open to candidates who have:

- Ingénieur d'application de la statistique
- a degree in economics or mathematics
- a recognized equivalent diploma with at least three years' professional experience

(iii) Number of places in 1982: 20

(iv) Course content:

The basic unit is the term. Students in the second year may choose between a statistics option and an economics option; a demography option is under study. Within each option specialization is offered (for example economic analysis, planning, sampling...)

(v) Awards: Studies lead to the award of the diploma of ingénieur statisticien économiste

9.3.2 Ingénieurs d'application de la statistique

(i) Duration of course: raised from 3 years to 4 years starting with the academic year 1982/1983;

(ii) Admission requirements: Admission is based on a competitive examination open to students who have passed the baccalaureat in mathematics or science or hold a recognized equivalent diploma;

(iii) Number of places in 1981: 110 of which 20 trainees study in Arabic the whole programme;

(iv) Course content:

First year

Basic courses: descriptive statistics, probability, algebra, analysis and economics.

Subsidiary courses: technical languages, Arabic, English, French.

Second year

Basic courses: Mathematical statistics: micro economics, macro economics, mathematics, linear programming;

Subsidiary courses: enterprise accounts and management, national accounts, computer science, numerical analysis, technical languages (Arabic, English);

At the end of the second year students are assigned to practical work for about one month during June-July.

Third year

Basic courses: mathematical statistics, econometrics, sampling, project analysis, input-output analysis, projection techniques, demography;

Subsidiary courses: planning techniques, public finance, administrative law, sociology, drafting techniques, administrative law, sociology, drafting techniques, statistical exercises: four to be chosen from a list which includes development economics, the statistician and the computer science user, economic and social statistics, etc.

(v) Awards: Studies lead to the award of the diploma of ingénieur d'application de la statistique.

9.3.3 Adjoint technique de la statistique (ATS)

(i) Duration of course: 2 years

(ii) Admission requirements: Admission is based on a competitive examination open to students who have completed the seventh year of secondary school in mathematics, science or economics.

(iii) Number of places in 1982: 40

(iv) Course content:

First year

Basic courses: statistics, mathematics, graphic representation, demography.

Subsidiary courses: information sciences, sociology, technical languages (Arabic, English, French).

At the end of this year during June - July, students are involved in practical work for about one month.

Second year

Basic courses: statistics, computer science, sampling, economic, geographical, administrative and economic conditions, applied statistics.

Subsidiary courses: enterprise accounting, technical languages (Arabic, English and French).

(v) Awards: Studies lead to the diploma of adjoint technique de la statistique (ATS)

9.3.4 Ingénieurs analystes informaticiens (IAI)

(i) Duration of course: raised from 3 years to 4 years starting with the academic year 1982/1983,

(ii) Admission requirements: Admission is based on a competitive examination open to persons who have passed the baccalaureat in the science stream or economics.

(iii) Number of places in 1981: 50

(iv) Course content:

The first year covers the following:

- Computer science: introduction, programming, computer science theory;
- Subsidiary courses: mathematics, statistical probability, technical English.

The second year covers:

- Computer science: Organic and functional analysis, numerical algorithms, structure of information, structure of computers, operating systems,

- Subsidiary courses: use of packages, report writing, enterprise economics, accounting and management and technical English

The third year covers: Design analysis, data bases, programming language, four seminars to be chosen from a list which inlcudes micro information science, installation of a computer centre etc.

Subsidiary courses: psychosociology, management, multivariate analysis, linear programming, and operations research.

Attachment: An attachment must take place in a centre at least for the entire third term and extending possibly to July-August. It leads to the writing of a thesis.

(v) Awards: Studies lead to the award of the diploma of ingénieur analyste.

The 4-year programmes are being examined. The present available syllabus cannot be considered as an official one.

9.3.5 Adjoints techniques programmeurs

(i) Duration of course: raised from 1 year to 2 years starting with the academic year 1982/1983.

(ii) Admission requirements: Admission is based on a competitive examination open to students who have duly completed the seventh year of secondary education in the science or economics streams.

(iii) Number of places in 1982: 30

(iv) Course content:

The course covers:

Computer science (general)
- introduction to computer science
- introduction to analysis
- operating systems
- indexing systems

Programming
- programming techniques
- fortram
- cobol

Subsidiary courses
- Mathematics
- Statistics
- Enterprises accounting and management
- English

INTAKE AND OUTPUT (PASSES

Course[1]	1977-1978		1978-1979		1979-1980		1980-1981		1981-1982		1982-1983	
	In-take	Out-put	In-take	Out-put	In-take	Out-put	In-take	Out-put	In-take	Out-put	In-take	Out-put
ISE	29[x]	16	19[x]	19	16[x]	7[2]	15	5[2]	15	9	19	...
IAS	178	102	198	131	184	118	183	111	128	97	177	...
ATS	47	40	36	35	48	42	9	59	59	58	64	...
IA	101	83	108	98	126	104	143	117	145	110	152	...
ATP	21	17	27	21	21	16	18	16	11	8	-	...

(1) ISE: Ingénieur statisticien économiste
IAS: Ingénieur d'application de la statistique
ATS: Adjoint technique de la statistique
IA: Ingénieur analyste
ATP: Adjoint technique programmeur

(2) Admitted in the second year. Thesis in the second year are not defended at any precise time but throughout the academic year.

(x) Including external students

1.	Country:	Rwanda
2.	Name of Centre	Institut Africain et Mauricien de Statistique et d'Economie Appliquée (IAMSEA)
3.	Attached to:	Secretary General of OCAM P.O. Box 965, Bangui (C.A.R)
4.	Address:	P.O. Box 1109, Kigali (Rwanda)
5.	Name of Director:	Benoit NTIGURLIWA

6. Aim

The aim of the Institute is to train ingenieurs des travaux statistiques who are nationals of the States members of OCAM. However, it also accepts students from French-speaking non-member states.

7. Background

The "Institut africain et mauricien de statistique et d'economie appliquée" was founded in November 1976 in pursuance of resolution No. 44/AEFT/Bangui/74 adopted by the summit of Heads of State and Government of the African and Mauritian Common Organization (OCAM) concerning the transfer to Kigali, Rwanda, of the training of ingénieurs des travaux statistiques which was then offered at the "Centre européen de formation des statisticiens économistes des pays en développement (CESD)" in Paris.

IAMSEA is thus one of OCAM's common undertakings which is administered by a governing council composed of:

1. The Ministers of member States or their representatives, with each State having one vote.
2. The Secretary General of OCAM or his representative in an advisory capacity.
3. One representative of the teaching staff,
4. One representative of the students.

8. Academic staff

The French Government, through the 'Fonds d'aide et de coopération (FAC)", and the Commission of the European Communities through the European Development Fund, finances full-time teaching posts. IAMSEA began the Africanisation of its teaching staff during the 1982/1983 academic year. The salaries of its full-time African lecturers are met by the contributions of the IAMSEA States members.

9. Courses

9.1 Duration of the course: three years

9.2 Admission requirements: Admission is exclusively by competitive examination, admission by qualifications being excluded. The examination

is the same as that for the Yaounde and Abidjan centres. It is co-ordinated by CESD, Paris.

Those who may sit the examination are:

a) Candidates who have the series C,D or E (scientific) baccalaureat or other equivalent diplomas;

b) Candidates in the final year of preparation for the series C,D or E baccalaureat, their admission is subject to their obtaining the series C,D or E baccalaureat by the time courses start at the Institute;

c) Candidates who have the diploma of "adjoint technique de la statistique".

A preparatory year has been introduced since the 1978-79 academic year. Admitted to the preparatory year are candidates who have sat the ITS entrance examination and who have obtained marks slightly lower than the pass mark for admission to the first year. The selection is made with priority being given to candidates from countries which have few statisticians and candidates holding the diploma of"adjoint technique".

9.3 Number of places in 1982: 30

9.4 Teaching programme (allocation of time) and 1982/83 weighting system.

Preparatory year

Title of courses	Number of hours	Weight
Mathematics	200	39
Seminars	20	3
Study of economic and social literature	100	17
English	50	8
Statistics and probability	120	21
Field project	-	7
General assessment	-	5
Total	520	100

First year

	Title of courses	Number of hours	Weight
a)	Economics	240	27
	Introduction to economics	60	7
	History of economics	20	2
	Economics seminar	30	4
	Introduction to accounting (including case study 20h)	40	5
	Management and financial analysis	30	4
	National accounts (including case study 30h)	40	5
	Economic game (case study)	20	-
b)	Mathematics	270	30
	Mathematics	180	20
	Probability	90	10
c)	Statistics	120	14
	Descriptive statistics	90	10
	Computer science	30	4
d)	Theory and practice of surveys	30	14
	Field project	2 weeks	10
	Statistical practice and survey preparation	30	4
e)	Miscellaneous	90	15
	English	50	6
	Techniques of written and oral expression	20	2
	Introduction to sociology	20	2
	General assessment	-	5
	Total	750	100

Second year

	Title of courses	Number of hours	Weight
a)	Economics	210	30
	Economic analysis	70	9
	Monetary and international economics	30	4
	Advanced national accounts	50	7
	Economics of development	50	7
	Public finance	20	3
b)	Mathematics	80	11
	Mathematics	50	7
	Operational research	30	4
c)	Statistics	200	27
	Probability and Mathematical statistics	110	15
	Descriptive statistics	30	4
	Demographic analysis	30	4
	Computer science	30	4
d)	Methodology and practice of surveys	100	17
	Sampling theory and practice	50	7
	Survey preparation	50	-
	Field project	2 weeks	10
e)	Diverse	70	15
	English	50	7
	Development Sociology	20	3
	General assessment	-	5
	Total	670	100

Third year

	Title of courses	Number of hours	Weight
a)	Economics	70	23
	Planning	30	10
	Project	40	13

	Title of courses	Number of hours	Weight
b)	Statistics	200	65
	Data analysis	20	7
	Econometrics	20	7
	Computer science	30	10
	Socio-economic household surveys	20	7
	Case study Transport statistics Agricultural statistics Health statistics Educational statistics Employment statistics Foreign trade statistics Industrial construction and public work statistics	80	25
	Demographic surveys	110	3
	Organization of a statistical service and administrative management	10	3
c)	Sample survey theory and practice	20	7
	Analysis of survey results	20	7
d)	Miscellaneous	30	5
	Seminar on critical analysis of practical training	30	-
	General evaluation	-	5
	Total	320	100

10. Tuition fees

The tuition fees are set at 80,000 Rwanda francs i.e. approximately US$870 per year (1$ = 91.91 FRW).

11. Fellowships

Students at IAMSEA generally receive fellowships from the European Development Fund (EDF) or the "Fonds d'aide et de coopération" of the French Republic (FAC), or from their countries. Applications for EDF and FAC fellowships are usually sent by the relevant authorities of the candidate's country of origin through the normal channels. The EDF and FAC fellowships have an harmonized and uniform rate. The national fellowship rates vary according to the country.

12. Living conditions for foreigners

For the time being IAMSEA is located in the premises of the former official College of Kigali which comprises a dormitory with 72 rooms, a canteen and an entertainment room. Students have a bus in which they travel as a group. Since 1981 there has also been a social and sports club (GAS) at IAMSEA which looks after the extra curricula aspects of the Institute from the socio-cultural and sports points of view.

Table 1 Distribution of students by year and by country for the academic year 1982/1983.

Country/year	3rd year	2nd year	1st year	Preparatory year	Total
1. OCAM countries					
Benin	1	3	1	-	5
Central African Rep.	1	-	2	-	3
Niger	1	1	1	-	3
Rwanda	9 1/	4	8	2	23
Senegal	1	8	5	-	14
Togo	5	-	-	-	5
Upper Volta	4	-	1	-	5
2. Other countries					
Burundi	-	1	-	-	1
Comoros	-	1	-	-	1
Congo	1 1/	4	2	1	8
Gabon	-	1	-	-	1
Madagascar	2	-	-	-	2
Zaire	-	1	-	-	1
Total	25	24	20	3	72

1/ 2 students from Rwanda and 1 from Congo were to obtain their diploma in July 1982 but are repeating their practical training with a view to obtaining the degree in February 1983.

1. Country: Sénégal

2. Name of the Centre: Collège statistique

3. Attached to: Ecole nationale d'économie appliquée (ENEA)

4. Address: Route de Ouakam, B.P. 5084, Dakar (Sénégal)

5. Director: Mr. Léplat Jean

6. Aim:

The College statistique offers courses at the ingenieurs des travaux statistiques (ITS) and agents techniques de la statistique (ATS) levels - respectively B.Sc and Certificate levels. Apart from Senegalese students, it also enrols students from the Sahel countries.

7. Brief Historical Background

The College statistique was established in 1966 at the request of the Direction de la statistique (National Statistical Office) but does not fall directly under the authority of the latter. It has been integrated into the other Colleges of ENEA. (comprising of colleges, Animation, middle level practical teaching, planning and statistics). The programmes of the College statistique are drawn up in consultation with the Directorates of ENEA and Statistics and are adjusted each year to take into account the concerns of future employers and the evolution of economic techniques.

The College statistique trained two batches of Adjoints techniques de la Statistique (Diploma level) before it stopped training at that level. Before this, recruitment was done:

i) through selection examination for the holders of Brevet d'etudes du premier cycle (BEPC) des lycées et collèges or diplomas considered as equivalent.

ii) through competitive examinations for Government officials with at least four years practical professional experience.

iii) on the basis of the qualifications for candidates holding baccalaureat (A level) the duration of the courses was four years.

Since 1975, the College statistique no longer trains adjoints techniques but rather ingenieurs des travaux statistiques (ITS) for three years, and agents techniques de la statistiques (ATS) to three years.

8. Teaching Staff

The teaching staff comprises:

- when it was established in 1977, a Director/Professor (expatriate) assisted by part-time lecturers selected from among the available university professors and various specialists in the subjects taught.

- from 1978, another full time professor (expatriate) was assigned to the Collège.

A Senegalese was to be appointed to the post of Director in 1982.

9. Teaching Programme

The College statistique at the moment runs two training cycles:

i) the cycle of the ingenieurs des travaux statistiques.

ii) the cycle of the Agents techniques de la statistique.

9.1 Teaching Method

The teaching offered at the College statistique comprises lectures, practicals and training.

Training in each cycle lasts for three years and is organised as follows:

The first year is devoted to basic courses to complement the students past training and to prepare them for the training in statistics/economics at the College statistique. Training in this first year includes three months of practical training.

The second year is devoted to the acquisition of the techniques of statistics and economics. A three months' course enables the students to become conversant with a statistical service, its organisation, nature of work and the methods used.

The third year aims at affording the students the opportunity to put into practice the knowledge they had acquired during the training. It is mainly a year for specialisation and of training conducted under the supervision of the professors and the users.

The College statistique has adopted a system of continued training control. During the practicals or case studies as well as during the practical training marks are awarded.

9.2 Duration of academic year

The academic year stretches from 1 November to 30 September for the first two years. This practical includes a training period from 1 July to 30 September. The third year begins on 1 November and ends on 30 April, plus a five months' training period.

9.3 Training cycles

9.3.1 Ingénieurs des travaux statistiques

i) Duration of training: 3 years

ii) Admission requirements

Admission is through direct competitive examination which is open to holders of baccalaureats, scientific options, or through competitive examination for Government officials with at least four years professional experience.

iii) Number of places offered in 1983: 25 to 30

iv) Allocation of time: the courses include:

1st year

Subject	Number of hours per week	
	Lectures	Practicals
- Mathematics	4½	1½
- Probability	1½	1½
- Descriptive Statistics	3	3
- General Economics	4½	1½
- History of Economic thought	1½	-
- Techniques of expression	1½	-

Total number of hours per subject:

- Mathematics and probability: 250 hrs.
- Economics: 170 hrs.
- Statistical production: 175 hrs.
- Miscellaneous: 20 hrs.

Total: 615 hrs.

2nd Year

Subject	Number of hours per week	
	Lectures	Practicals
- Probability and Mathematical Statistics	3	1½
- Theory and Practice of sampling	1½	1½
- Operational Research	1	½
- Economic Accounting	1	½
- Business Accounting	1½	-
- Planning	1½	-
- Development Economics	1½	-
- Computer Science-Numerical analysis	1½	1½

2nd Year (cont'd)

Subject	Number of hours per week: Lectures	Practicals
- Economics seminars	1½	-
- English	1½	-
- Demography and Analysis	1½	-
- Sociology	1½	-
- Geography	1½	-
- Administrative report writing	1½	-
- Law	3	-

Total number of hours per week:

- Probability: 100 hrs.
- Data processing: 90 hrs.
- Economics: 90 hrs.
- Statistical production: 115 hrs.
- Miscellaneous (practicals): 265 hrs.

Total: 660 hrs.

3rd Year

Subject	Number of hours per week: Lectures	Practicals
- Data processing	1½	1½
- Economics	3	1½
- Business Economics - Management	1½	-
- Short-term planning forecasts	1	½
- Exposés on Economics	-	1½
- Marketing	1½	-
- Agricultural statistics and technology	1	½
- Industrial statistics	1½	1½
- Price statistics	1	½
- Foreign trade statistics	1	½
- Education statistics	1	½
- Health statistics	1	½
- Domestic trade and transport statistics	1	½
- Budget and Finance statistics	1	½

3rd Year (cont'd)

Subject	Number of hours per week: Lectures	Practicals
- Budget and Consumption survey	1	½
- Processing of survey reports	1	½
- Organization of a statistical service	1	½
- English	3	-

Total number of hours per subject:

- Economics: 125 hrs.
- Statistical production: 170 hrs.
- Data processing: 30 hrs.
- Miscellaneous: 35 hrs.

Total: 360 hrs.

v) Awards: The studies lead to the award of the degree of Ingenieur des travaux statistiques. To be awarded the degree, students must obtain an average of at least 60 per cent. Similarly, to be promoted to a higher class students must obtain an average of at least 60 per cent.

9.3.2 Agents techniques de la statistique

i) Duration of the course: 3 years

ii) Admission requirements: Admission is based on a direct competitive examination open to BEPC holders or an equivalent diploma, or on a professional competitive examination open to Government officials with at least four years of professional experience.

iii) Number of places offered in 1982: 25 to 30

iv) Allocation of time: The courses include:

1st Year

Subject	Number of hours per week: Lectures	Practicals
- Mathematics	2½	2
- Descriptive statistics	2	1
- General Economics	2	1
- History of economic thought and facts	1½	-
- Business economics - Management	1½	-

1st Year (cont'd)

Subject	Number of hours per week	
	Lectures	Practicals
- Knowledge of language - Essay, elements of philosophy	1½	-
- Technics of expression	1	½
- Demography	1	½
- English	1	½
- Law	1½	-
- Geography	1½	-

Total number of hour per subject:

- Statistical Mathematics: 225 hrs.
- Economics: 115 hrs.
- Miscellaneous: 250 hrs.

Total: 590 hrs.

2nd Year

Subject	Number of hours per week	
	Lectures	Practicals
- Mathematics	2½	2
- Descriptive statistics	2½	2
- General economics	1½	1½
- Business accounting	1½	1½
- Agricultural Technology	1	½
- Survey methodology	1½	1½
- Economic Accounting	1	½
- Sociology	1	½
- Initiation to data processing	1	½
- English	1	½
- Industrial technology and statistics	1	½
- Price statistics	1	½
- Foreign trade statistics	1	½

Total number of hours per subject:

- Statistical Mathematics:	150 hrs.
- Economics:	80 hrs.
- Statistical Production:	268 hrs.
- Miscellaneous:	90 hrs.
Total:	588 hrs.

3rd Year

Subject	Number of hours per week	
	Lectures	Practicals
- Mathematics	2	2½
- Agricultural statistics	1	½
- Industrial statistics	1	½
- Employment and Labour statistics	1	½
- Health statistics	1	½
- Financial statistics and public accounting	1	½
- Foreign trade and transport statistics	1	½
- Budget and consumption survey	1	½
- Demography - surveys	1½	1½
- Sociology	1½	-
- Introduction to data processing	1½	-
- English	3	-
- Administrative report writing	1½	1½
- Health statistics	1	½

Total number of hours per subject:

- Mathematics:	80 hrs.
- Statistical production:	166 hrs.
- Miscellaneous:	133 hrs.
Total:	379 hrs.

v) Awards: The studies lead to the award of the diploma of agents techniques de la statistique. To be awarded the diploma, students must obtain an average of at least 60 per cent. Similarly, to be promoted to a higher class they should obtain an average of at least 60 per cent.

10. Admission requirements: (as stated above)

11. Tuition fees

Boarding is compulsory for the students of ingénieurs des travaux statistiques and the fees are broken down as follows:

- Boarding fees from November to June	FCFA 600,000
- Clothing	FCFA 150,000
- Stationery	FCFA 30,000
- Fellowships: 15,000x8	FCFA 120,000
- Allowance for practical training from July to September 700x(31+31+30)	FCFA 64,400
- Fellowships from July to October 24,000x4	FCFA 96,000

All the agents techniques are day students.

The tuition fees comprise only the fellowships which amount to FCFA 210,000, (17,500x12).

12. Fellowships

There is no special procedure with regard to the award of fellowships.

13. Living conditions

The students of the ingénieurs des travaux statistiques are housed in two-bed rooms.

Number of ATS and ITS trained per batch:

ATS	1st batch	75/76 - 20	
	2nd batch	76/78 - 14	
	3rd batch	78/80 - 20	
	4th batch	80/83 - 26	
ITS	1st batch	75/78 - 15	
	2nd batch	78/81 - 14	
	3rd batch	81/84 - 26	13 of whom are from the Sahel countries.